Town and Country; or, Which is Best.

THE increase of a taste for Rural Life among us Americans is one of the best features of the times in which we live. The enormous fortunes in Europe have had their uses in exhibiting examples of what superb results may be produced by grouping, gardening, and fine single specimens of trees. Americans have seen the beautiful parks and grounds abroad, and have said to themselves, There is no reason why we should not have beauties of equal interest; we can enjoy at least as much as the nobleman; and we too will plant. Scarcely a traveller returns from Europe without having his ideas of beautiful scenery strengthened and improved. He has seen what effects time produces, aided by industry and taste; and no sooner does he touch his natal soil than he discovers that we possess the means of pursuing rural art, and have trees and sites for improvement not rivalled by any nation on the earth. He projects his rural home, studies the subject, and soon posesses a residence which contains within itself the means of as much true enjoyment as the most palatial mansion. Architects of no mean pretensions, and with a knowledge of our climatic influences, are not now rare among us. With a little study of the hardy trees and shrubs by himself, aided by the advice of those who have already experimented, there have grown in America in every State, and in every direction, beautiful residences, handsome grounds, and intelligent inhabitants, which a national pride rejoices to see, and a mind which can appreciate the true and the beautiful in human nature, no less than in landscape, may well take pleasure in contemplating.

The American citizen, as he acquires the means of repose, eschews the topics and the conversation which cities engender; his local attachments to a street give place to the love of a garden; business is thrown aside as a burthen too great in his contemplation of the brief space he is allotted on earth; and he feels that a quiet mind is the grand desideratum for age, and possibly of infirmity. It was the habit of our immediate ancestry to make the country their home during the warm season only. *Thousands* who have now their houses amid rural scenes would only have visited the country in summer in former times. Our intercourse with such is mostly attended by the remark that "the winter is the pleasantest part of the year in the country." Winter, to the citizen, comprises all the months between August and July! How erroneous! They miss the season of buds and early flowers, and feel not the pleasures of watching the ripening fruit; they know not the beauties of the early snowdrop, and rarely witness the changing colors of the forest, those seasons most in favor with the true lover of the country. When they arrive in summer at the rural retreat, the heat and dust are the reigning tyrants, and they are but too glad to escape the annoyance. Not so the real lover; he enjoys the society of the moving clouds; admires the winter sunsets, and as he paces the south side of his evergreen hedge, wonders that any one can prefer the gas light of city streets, or pay tribute to

the awkward representations of theatrical scenery. No—No!—The real enjoyments of country life begin just as the citizen adjourns to town.

The sleigh-ride of winter, the frozen stream, the evergreens covered with their white robes, the gathering of the ice, the cozy winter evening with one's book, or a friend with sympathetic mind; the closed shutter which keeps safely out the wintry blast, the sense that our care has secured all the inhabitants, as well as the dumb beasts dependent upon us for shelter, from the terrors of the storm; all these feelings have a charm which we never enjoy in cities. The evening chat, its reading, or its innocent music or game of chess, a call upon a neighbor, perhaps ensconced in snow boots, or raised on pattens or gum elastics, a walk in the invigorating wind, and an appetite for a cold cut and a salad of one's own raising, or nuts and fruit from your own garden—where can you find the counterpart? Certainly not in the party illumined by diamonds, and the artificial glow of animated imbecility.

The rational portions of great cities have well considered these things; and now every railroad which can convey the pent up denizen of closely packed squares, carries *to the country* the sensible father or the youthful husband, in numbers which statistics render perfectly wonderful. We know there are many remain who would wish to do likewise, and to such we would give encouragement by occasionally adverting to the pleasures to be enjoyed, and the moral influences which the country calls forth. But we have a word of caution too. Prepare for this by a little study of vegetable life; learn to know one form of vegetation from another; call as many trees and roses by their proper names as possible; read books on rural topics, and the more you love the best books the better will you enjoy either town or country.

CULTURE OF THE PEAR—AN ENGLISHMAN'S VIEWS.

BY THOMAS RIVERS.

J. Jay Smith, Esq.: Sawbridgeworth, Herts, England.

My Dear Sir,—I have just had prepared and packed for you some Roses—twenty-four standards, and twenty-four dwarf standards of Hybrid Perpetuals of choice kinds. The case will go per steamer from Southampton, to care of S. S. Shephard, New York. I hope they will reach you in safety, and I beg your acceptance of them.

I was much interested in the discussion in the *Horticulturist* about Pear trees on the quince stock: how strange it is that bad cultivators place the blame on the stock and not on their own mismanagement. I have now had more than twenty years' experience in the cultivation of pears on the quince, and am more than ever convinced that their culture as garden trees is the most agreeable and profitable of all fruit culture; due regard should, however, be paid to the sorts selected; for, to a certainty, there are some kinds that even in the most favorable soils will not do well. If I were a young man, I should desire no better speculation than forming a large pear tree garden on quince stocks in your country, to grow the finer kinds of pears for market; but it must be understood, it should be strictly a pear *garden*, not a grass orchard, or a field full of rude weeds; for pear trees on the quince require good culture. If the soil is rich, manuring may be dispensed with;

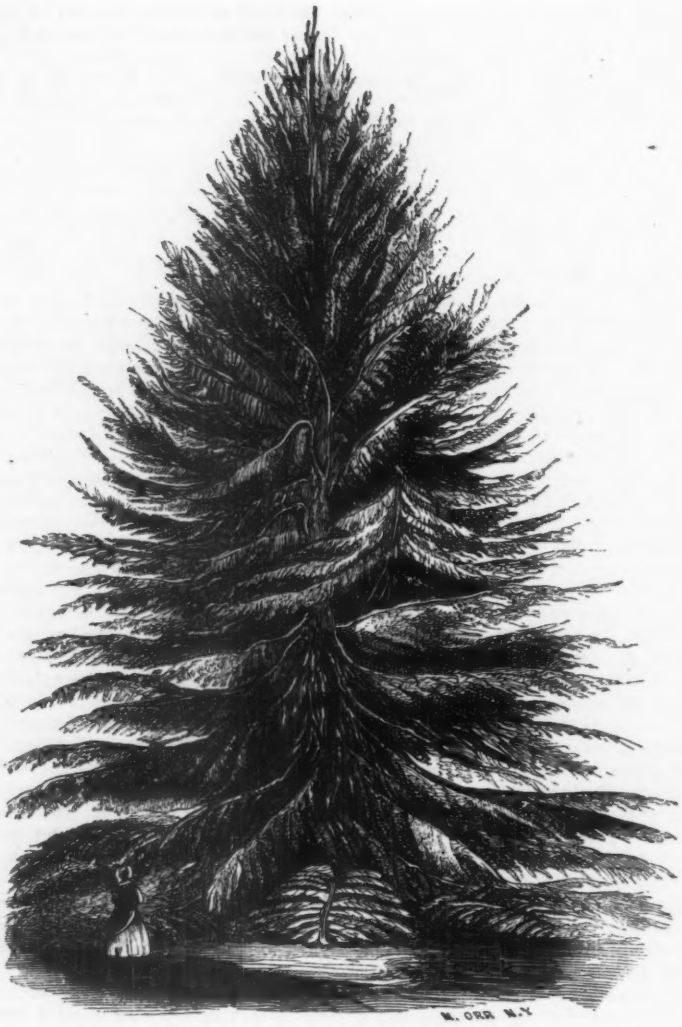
but in ordinary or poor soils, a surface dressing of manure should be given annually in October, round each tree in a circle from three to four feet in diameter. The ground should not be dug, but kept clean with a horse hoe between the rows, and with the hand hoe round the trees. When the ground is dug or ploughed, the surface roots are destroyed, but if only hoed they soon form a network near the surface and feed on the manure, and the trees are benefited by the roots being exposed to the influence of the sun and air.

I should form my pear garden thus: rows ten feet apart, from north-east to south-west, so that the sun during the heat of the day shines in the spaces between them; trees, five feet apart in the rows; they may stand this distance in the rows from ten to twelve years; and then, if at all crowded, every alternate tree may be removed, but I am not sure that I should not let them remain longer, so as to form large hedges. My trees, five feet apart in the rows, have been planted twelve years, and it will be five or six years before they touch each other; they are pruned once a year, generally in August, and sometimes not till after the fruit is gathered in October; they *must* be pruned once a year: my trees bear profusely, and I am not over nice as to the time of pruning. I have seen a pear hedge in France pruned once a year with common garden shears, and was surprised to find what a quantity of fruit the trees gave. I mention this to show that if pears on the quince have a good soil and climate, they are very productive, even under rough usage; but pruning in some shape seems absolutely necessary. The soil for a pear garden should be a friable sandy loam, resting on a wet bottom of clay or stiff loam; if rich, all the better; if poor, manure, I repeat, will be required. In this country, with our moist climate, I have known pears on the quince succeed well in loam resting on a dry stony bottom; but with your hot summers, unless manured heavily on the surface, they would perhaps suffer from drought. The sorts I should select for my pear garden for profit, i.e. for market purposes, would be, 1, Louise Bonne; 2, Beurré d'Amanlis; 3, Vicar of Winkfield; 5, Beurré Diel; 5, Duchesse d'Angouleme; 6, Easter Beurré, which in your climate must be valuable; for in the warm parts of France it is unequalled. The Vicar, which in moist seasons in this country is flat and indifferent, only requires a bright sun to bring out its qualities; for last summer, 1857, which was remarkably bright and warm, my row of one hundred trees, now ten years old and pictures of health and vigor, gave me such pears as had never before been seen in Covent Garden market; they were large, clear and beautiful, and almost "best." I should also feel inclined to try Beurré Hardy as a market pear; in vigor, the tree on the quince equals the Vicar; and its fruit is large and excellent.

The cultivator of pears for market, should confine himself to as few kinds as possible; and if in the course of a few years he finds any one or two that suit the soil and climate better than others, he should extend their culture as much as possible. I have found this the case with Louise Bonne, (there is now no occasion to add, "of Jersey," for the old sort is scarcely known,) and so I at once planted two thousand trees: no act of my pomological career has given me more pleasure and profit.

I have not mentioned the preparation of the soil; for all your books on fruit tree culture go into that fully; but there can be no harm in saying that I have my fresh ground forked to twenty-two inches in depth; and I never turn the surface soil to the bottom, but keep the surface on the surface.

I am, dear sir, yours very truly, THOS. RIVERS.



DOUGLAS'S FIR. (*Abies Douglasii.*)

70 Feet in Height.

(From the London Florist.)

MAGNOLIAS.

Our favorite family, the Magnolias, for the most part, will strike readily from cuttings, or may be increased by layering the branches, which is the plan most generally adopted with hardy species; the tender sorts are usually struck from cuttings. The best time for layering is the autumn, but it may be done at any time until February. The branches to be layered must be slit close below a leaf or joint, pegged down, and covered with soil in the usual manner; neither shorten the branches nor take off any of the leaves. By the next autumn they will make nice rooted plants, when their connexion may be severed, and the plants potted and plunged in the soil, which is necessary to preserve their sensitive young roots from the frosts of approaching winter; it is also as well to shelter them in severe weather with mats over hoops, particularly while young, as they are tender until they become established and have plenty of good roots. To obtain a stock of any of the hardy kinds the best way is to plant a shrubby specimen in a sheltered corner of the garden, with room all round it, and to bend down and layer every branch that is of sufficient length to reach the soil, and there will always be a succession of shoots to lay down, as fast as the others are taken off. The Chinese sorts, and indeed most of the Asiatic ones, do well when inarched, budded, or grafted on *purpurea*. Inarching is the quickest way of making a large plant at once, although the quantity of wood made use of for inarching would make several grafts, or furnish many buds, so that size is the only advantage gained, and this only for a time. Where a good duplicate specimen is required, instead of stock, this is not of much consequence however. The method of inarching is known to every one who has the least pretensions to be considered a gardener, but for the instruction of such of your readers as may not be sufficiently acquainted with the *modus operandi*, I will explain the way in which this can be performed most successfully. In the first place we obtain a good strong stock of *purpurea* of the desired height, and place it near enough the plant that is to furnish the branch to be inarched, which should be such as can be spared without injury and likely to form a nice plant. The two should be tied so that neither may suffer any disturbance. One side of the branch must then be pared flat for a length of about three inches, and the stock also pared to correspond, so that, when fitted together, the bark of each may be in close contact and unite, which in due course they will do after being firmly bound together. If the stock and branch are of different sizes there may be some little difficulty in fitting the one to the other, in which case it is not very material to make both sides fit, provided the bark of each is in contact on one side. The season when inarching should be performed is just before the plants begin to make their growth, when the subsequent flow of sap will ensure a ready union of the two parts.

All the North American Magnolias may be raised from seed, sown in pots or pans rather widely, covered about half an inch deep with soil, and placed in a warm frame. When the young plants are of sufficient size, pot them off and return them to the frame to establish them, after which they may be placed in a cold pit. In this state they are very susceptible of harm, from cold winds particularly; let the pit be shut up at night as winter draws near, but give them as much air as they can have with safety. They will require repotting as they progress, and when in thirty-two's they may as

well be sunk into the soil of the pit; this will be a great security against injury, either from the roots becoming too dry or being injured by frost. B.

THE PLANT HUNTERS;

Or, Adventures among the Himalaya Mountains.

BY CAPT. MAYNE REID.

THE PLANT HUNTERS IN AMERICA.

Happy in its title, happy in its recitals, so far as the young are concerned, this book has somewhat of the spirited details of Robinson Crusoe. The incidents of intercourse among the natives, the contests with tigers, and the hair-breadth escapes, whilst traversing the heights and chasms of that noblest of nature's geological structures, rivet the attention of the youthful mind: but the lover of plants will seek in vain for a single fact, or description which its title might have led him to expect would be the burthen of the song. Whether its author had ever been in India, does not appear. He assumes to be the editor and collator of another's labors, and introduces him and others of his class to his readers, thus: "My plant-hunter is no fungus-digger. His occupation is of a nobler kind than contributing merely to the capricious palate of the gourmand. To his labors the whole civilized world is indebted. You owe him gratitude for many a bright joy. For the varied sheen of your garden you are indebted to him. The gorgeous dahlia that nods over the flower-bed—the brilliant peony that sparkles on the parterre—the lovely camellia that greets you in the green house—the kalmias, the azalias, the rhododendrons, and a thousand other floral beauties are, one and all of them, the gifts of the plant-hunter. By his agency, England—cold, cloudy England—has become a garden of flowers, more varied in its species, and brighter in bloom, than those that blossomed in the famed valley of Cashmere. Many of the noble trees that lend grace to our English landscape—most of the beautiful shrubs that adorn our villas, and gladden the prospect from cottage windows, are the produce of his industry." Karl Linden, whose exploits and adventures he proceeds to relate, was a young Bavarian botanist, the son of an uneducated gardener, who having experienced the disadvantages of that condition, determined on the education of his son. At nineteen, Karl was a student in one of the universities, and had imbibed those principles of patriotic liberty that in 1848 were strong in the German heart, and was one of those brave students who gave temporary freedom to Baden and Bavaria. Forced to flee from his native land, an exile in London, what was the young refugee to do. He found English hospitality cold enough. He was free indeed—to wander the streets and beg. Fortunately he bethought him of a resource. He understood the names and natures of most of the plants cultivated in Europe. His early opportunities in the garden of a great noble, where his father was the superintendent, had given him this knowledge; if he could do no better, he could make a hand in a garden and nursery; with such an idea in his mind, the young refugee presented himself at the gate of one of the magnificent nurseries in which great London abounds; he told his story, and was employed. It was

not long before the intelligent and enterprising proprietor of the establishment discovered the botanical knowledge of his German *protégé*. He wanted just such a man. He had plant-hunters in North and South America, in Africa, in Australia,—he wanted a collector for India. To India he was dispatched; a ship carried the plant-hunter to Calcutta, and his own good legs carried him to the Himalayas. Such are the opening chapters; we could have wished the subsequent ones were more appropriate to the title of the book; but he who wishes information on the botanical treasures of that quarter of the globe, need not look therein. Let him consult that most interesting work, "Notes of a Naturalist in Bengal—the Sikkim and Nepal Himalayas," by Doct. Hooker, son of Sir Wm. Hooker, the distinguished Curator of Kew Gardens.

Mr. Editor, perhaps some of your youthful readers (for I trust you have many such, whose tastes the *Horticulturist* is assisting to mould for future usefulness and pleasure), may not know we have had plant-hunters among us: men who would have derived greater joy from the discovery of an undescribed *Magnolia*, or even an humble moss, than did Captain Sutler and his associates, on the first discovery of gold in California! Probably the first, certainly the most distinguished of the early plant-hunters of America, was Bartram, who, about the year 1730, made collections of American plants for his English correspondents. He was perhaps the first Anglo-American who conceived the idea of establishing a Botanic Garden, and determined more undescribed plants than any of his cotemporaries in our country.

In 1773, the second botanical garden was established in this country, by Humphrey Marshall, another plant-hunter, whose residence was at the site of the present village of Marshallton, Chester county, Pa. His example was not without its influence; and in 1777, John Jackson commenced a highly interesting collection of plants at his residence in the same county.—*See Darlington.* In 1785, Humphrey Marshall published "Arbustum Americanum," believed to be the first botanical work written by an American, and published in this country; it is a rare book, of which a copy is preserved in the Philadelphia Library. In 1791, Bartram published his Travels in the Carolinas, Georgia, and Florida—an interesting account of that section, mainly valuable at the present day as a record of the past. Other plant-hunters now appeared in quick succession—some impelled solely by the love of science; others, by the double purpose of gratifying their thirst for knowledge, and gaining bread by the exportation of their collections to Europe. One of the most distinguished of the present century was F. André Michaux, who in 1810 published in France his "History of the Forest Trees of North America," and of which, Mr. Editor, it was your pleasant lot to superintend several American editions. The interesting biographical sketch of Michaux, recently published in the *Horticulturist*, has happily extended his name and fame. Preceding Michaux by a few years, was Kin, an eccentric German, of whom but little is recorded. He traversed on foot much of our then unexplored country, with bag on shoulder, *à la chiffonnier*, gathering as he journeyed whatever to his inquisitive eye seemed rare or beautiful. The collection of southern *Azalias*, which decorated the old Landreth Nurseries, was made by him, in return for some trivial aid extended his exchequer in an hour of need. Pursh followed, and for some time was gardener to Mr. Hamilton at the Woodlands. He was an educated, observant, German botanist, and in 1814 published in London "Flora Americæ Septentrionalis," the most comprehensive work on American plants extant, though perhaps not

of the very highest authority. His name will pass to posterity among those of the early plant-hunters in the wilds of the New World. To him, it has been said, belongs the chief credit of a most useful practical work, "The American Gardener's Calendar," published in 1806 by Bernard McMahon, whose name it bears. Here we may digress to say, McMahon was in his way a plant-hunter and patron of science, so much so as to induce Nuttall to name the genus Mahonia in his honor. I was pleased to hear, Mr. Editor, that it is your intention to republish the memoir of him which you appended to the late edition of his work superintended by yourself.

John Lyon, a Scotchman—sprung from that staid and thrifty class of peasantry, whose sons have furnished so many bright examples in art, literature and science—succeeded Pursh, as the superintendent of the Woodlands, during its palmy days. Lyon ultimately relinquished the position to become a practical plant-hunter, with a view to their exportation to Europe. In that pursuit he made extensive journeys, preserving his accumulated gatherings at my father's nursery, until they amounted to a sufficiency to authorize a trip; thus he made alternate journeys of collection and voyages across the Atlantic. Mr. Editor, you well remember the *Magnolias, Halesias, Stuartias, Virgilias, Gordonias, Pinckneyeas*, and other then rare native trees and shrubs, which decorated the old place—they were mainly the contributions of Mr. Lyon. In one of his tours of exploration, whilst in Tennessee, he was overtaken by a fever incident to that region, and died with strangers only to pay "the last sad offices." Such is the danger to which the plant-hunter is subject. Though then but a child, I recollect him well. He was, for years, when at Philadelphia, an inmate of my father's family, and at one period acted as an amateur tutor to the writer of this sketch. I judge he found it no "delightful task" to

"Teach his young ideas how to shoot."

Mr. Lyon was an amiable, well bred, intelligent man, of most sterling worth, and a loyal Briton. Well do I remember the contempt and incredulity with which he was wont to read in *Poulson's Daily Advertizer* the tidings of Buonaparte's Peninsular successes and his joy when he was despatched to Elba.

About this period came Whitlaw, whom no doubt, Mr. Editor, you distinctly remember; once seen and heard, his image could never be obliterated. His portly person, ruby face, and broad Scotch accent, with a tone of confident assurance which told of perfect self satisfaction, made an indelible impress on my youthful mind. Whitlaw delivered a weak course of lectures on botany, aided by a series of transparencies.

Shortly subsequent to Lyon came another plant-hunter, Thomas Nuttall. Though more than forty years ago, I distinctly remember the first time I saw him, standing beside my father, in the dusk of a summer's evening; a stranger, of quiet manner and careless toilet, presented a letter, which proved an introduction from Frazer, a botanist of some repute, who had been a plant-hunter in America. Nuttall had previously been in this country in the capacity of a journeyman printer. What first directed his attention to botany is unknown; he at that time knew nothing of plants; in his own words, not even "a *smilax* from a passion-flower," and actually mistook the former for the latter! Mr. Nuttall is so well remembered by Philadelphians, of botanical taste—indeed by all in every department of science—at least

of the generation which is daily lessening, that any description of him would be almost superfluous.

In 1818, he published his "Genera of American Plants," which it has been said, "gave a new impulse to botanical studies in this country." Nearly simultaneously therewith he delivered a highly successful course of lectures on botany at the old hall of the Academy of Natural Sciences in Arch street, at which I recollect seeing that able botanist, the Abbe Corréa De Serra, the Portuguese Ambassador and Perpetual Secretary to the Academy of Sciences of Lisbon, himself a plant-hunter, and in whose honor was named the genus *Corræa*. In 1821, Nuttall published "Travels in Arkansas," being notes of a journey in search of plants. Though the bent of his mind was to precise studies, he had descriptive and reflective powers of more than ordinary beauty, and had he cultivated literature as ardently as science, he would assuredly have reached distinction.

Nuttall's perseverance in the study of his favorite branch of science was ultimately rewarded by a Professorship at Cambridge, and no man could have worn his honors with greater modesty. He ultimately resigned his chair, and returned to England, having been made independent by the decease of a paternal uncle, who, to correct what he no doubt deemed his wandering habits, coupled the enjoyment of the estate with the condition that he should reside in England a fixed portion of each year, himself, poor man, innocently unconscious his nephew had immortalized the name of Nuttall. He still resides near Liverpool, and is just now devoted to Rhododendrons. These rambling sketches of plant-hunters might be more extended, they are already too long, yet I cannot close without referring to another, if, indeed, it be admissible thus publicly to mention one,

"Whose modesty is only equalled by his virtues."

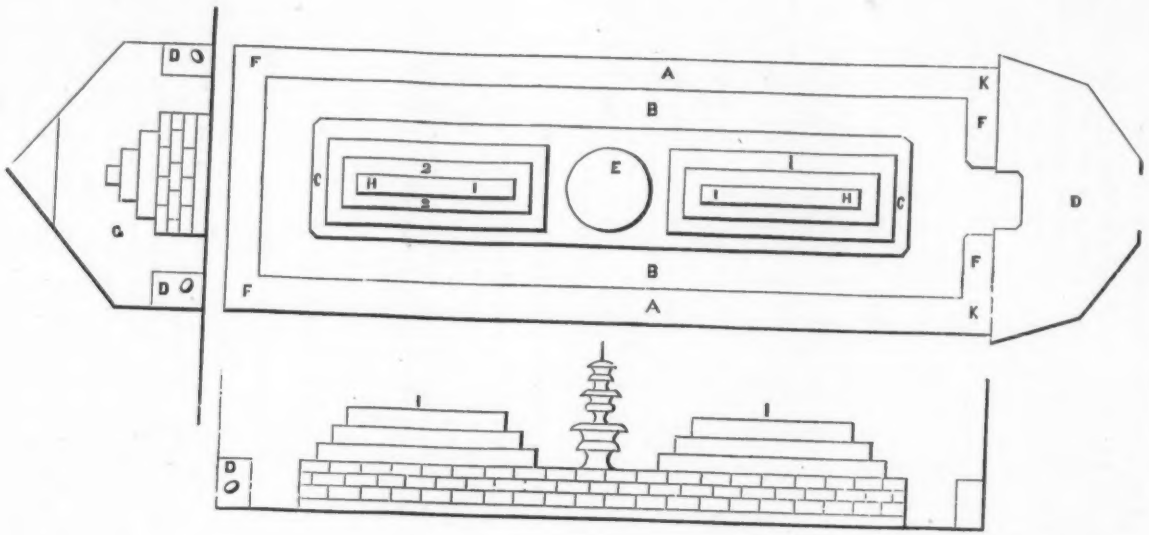
Doctor Darlington, of West Chester, author of "Flora Cestrica," and who, in his own quiet, unobtrusive way, has done much to advance botanical taste, and has conferred a further obligation on his countrymen by his charming book, "Memorials of Bartram and Marshall," to which, Mr. Editor, I beg you, once more, direct the attention of your readers; you can scarcely do them a greater service.

L.

PLAN OF AN ORCHIDEOUS HOUSE.

BY M. COLEMAN, MAMARONECK, WESTCHESTER CO., NEW YORK.

There are few tribes of plants so deserving the attention of amateurs as the Epiphytal species of Orchideæ; they are rich in every variety of color; some replete with aromatic perfumes, others emitting the most refreshing and delicate odors. Their flowers are mostly large, showy, and fantastic but all are interesting for their curious forms. They are of easy culture, bearing an incredible degree of heat or cold if applied at the proper season, and with due care is there one that ever saw those beautiful Cattleyas, elegant Oncidiums, curious Phalænopsis, or showy Stanhopeas, but would wish to grace their collections with them? yet, strange to think, notwithstanding their many commendable qualities, how seldom even a solitary specimen is met with; this may be attributed to the fact that a specimen once procured



Scale, 10 *feet to* 1 *inch.*

PLAN OF AN ORCHIDEOUS HOUSE.

and submitted to the treatment of a general collection, will soon cease to exist. It should not be inferred from such failures that they are more difficult to cultivate than other plants, but it illustrates the fallacious notion which many entertain, that plants from all parts of the globe must do equally well in one house. To such an admixture the subject of this notice forms a grand exception; for to grow Orchideæ to perfection, they must have a house of their own, so arranged as to imitate as near as possible the seasons and atmosphere of their natural climate, as much anxiety and expense is obviated by a proper beginning.

I send the above plan and arrangement of a house which I found suited to their wants, for the benefit of those interested. It is a combination on a small scale of the best houses in England, by the author of "Centuary of Orchideæ," &c.

A, A, side shelves for plants, with tank and return pipe underneath; B, B, walks; C, C, plant stage; D, anteroom; E, fountain and aquarium; F, F, F, F, under the shelves are apartments for creepers. The stage is comprised of seven shelves, three on the sides and ends and one in the centre, sunk in pans half an inch deep in Yorkshire white flags; these pans are filled with clean round gravel, on which the pots are placed; when evaporation is required, the whole stage and walks, if needed, can be ingeniously overflowed in a few minutes from a tank on the roof of a garden shed which runs at right angles to the house at the end, G. This tank is supplied by a force-pump from a supply cistern, filled with rain water from the surrounding buildings; a pipe is carried from the tank, under the walk, and through the vault (under the arched shelves) to the fountain, with a tap at a convenient point, which turned at leisure, throws a constant stream and gives a genial and pleasant atmosphere; there is an overflow carrying the surplus water back again to the supply cistern.

There is also a brass stopper, fitted in the bottom of the pond, connected with a drain to carry off the water when necessary. Another pipe is brought from the tank, and under the walk is carried through the mason work and centre of the stage at H, and neatly laid along the centre of the pan, (the centre of this pan must be sufficiently deep that the pipe will not appear above the level of the shelf,) to I, the stage being divided by the pond. The pipe is here bent down and carried under the shelves, rises again at J, and is continued to the end. The holes in the pans must be cemented to prevent the escape of water; the pipe is perforated at twelve or fifteen inches apart, with a tap in a convenient place. The centre shelf must be water level; so must 2 and 2, &c., be on the same level; then the water flows equally to both sides The side shelves are also of flag, with cast iron facing, supported by inch-thick iron bars, and made water tight with Roman cement. These are also covered with gravel, and can be watered with equal facility by branch-pipes from that which waters the stage.

At K, K, is a brass stopper to draw off the water when needed. Directly under those stoppers are hollow flags, with circular openings and drains connecting with that from the pond, which answer the double purpose of carrying off the surplus water from the shelves and from the walks when washing is needed. The walks are finished with Yorkshire flags; the side walls are five feet six inches high, having no upright glass; the sashes are single lights, and are fixed; (that is an objection which should be avoided, the tops should open in hot weather;) the ventilators are built in the side walls, one under each sash; there is also a ventilator in each gable end;

the only entrance is through the anteroom (this is only necessary for a detached house); it serves to prevent a rush of cold air as well as prolong the period of blooming by changing from a moist to a drier atmosphere; the flooring is the same as in the house, and a shelf around it, with brass swivels from the ceiling for hanging plants; there are four large windows, one on each side, hung in the ordinary way. The house has an east and west aspect; this, I believe, a great desideratum for all plant-houses, as the sun will have less power at noon, they being naturally shade-loving plants. A steep roof, fluted glass, and a judicious selection of creepers, will obviate much difficulty on this point.

NEW PLANTS OF 1857.

THE year which has passed away has been, as usual, prolific of novelties amongst plants cultivated as ornamental objects. It was, however, specially recorded, that two classes of plants, which appeal to the senses more by their beautiful forms than by their gaudy colors—by their elegant rather than their gorgeous beauty, have made great advances in popular estimation. The classes referred to are the Ferns and the Ornamental-foliaged Plants, including among the latter those with variegated leaves. We pass over these, however, to record briefly the novelties among flowering plants, which have attracted especial notice during 1857.

Among annuals, the most striking and useful addition which we have observed is Lupinus Menziesi, remarkable for its crowded, heavy spikes of deep yellow flowers. The Veronica Syriaca, too, though of a simpler character, should form pretty dwarf blue beds. A purple-leaved variety of Oxalis stricta, called atropurpurea, may be a useful dwarf plant for special purposes. Here we may also record the showy biennial Campanula Bromeheadiana, a remarkably fine double Canterbury Bell.

Perennials are more numerous. There is the Farfugium grande. Delphinium formosum, an English garden variety, is, perhaps, one of the richest and showiest perennials, producing freely its large intense azure flowers; producing them freely, too, the first year from the seed, if sown early and planted in congenial soil. In the French gardens has appeared a handsome double-flowered (so-called) variety of Scabiosa atropurpurea; and there also has re-appeared a beautiful dwarf Dianthus, with its crest of crimson white-eyed flowers, resting on a compact mass of deep green leaves; it is called Dianthus pulcherrimus. Lobelia texensis is a vigorous growing species, with scarlet flowers, numerous, but rather small, and is of half-hardy character. This latter remark applies to the fine Spanish Salvia candelabra, a tall suffruticose plant, with branching panicles of white and purple flowers. The French gardens have received from California Tanacetum elegans, with greyish Fern-like foliage. Viola pedunculata is a handsome dwarf plant, with yellow flowers, spotted behind. The last was the finest Chrysanthemum season ever known.

Among greenhouse plants, the finest, without doubt, is Rhododendron Veitchii, a dwarf habited species, with large white frilled flowers. Several good additions have been made to the Indian Azalias, but none strikingly superior to those already known. The double variety of Camellia reticulata, introduced by Mr. Fortune, has bloomed and proves to have a large, rich-colored flower, moderately filled with petals. Monochætum ensiferum is a

charming little Melastomaceous shrub, with Chironia-colored flowers, a greenhouse plant, certainly, but probably requiring a warm greenhouse. Some very pretty hybrid Bouvardias have been produced. One of the best of variegated plants is the new Hydrangea japonica aureo-variegata.

Achimenes amabilis is a fine stove plant, with white Foxglove-shaped flowers; and both that and A. meteor, which we have figured, and A. splendens, alias Tapina, a trailer, with brilliant scarlet flowers, are charming additions to this popular family. There are some very handsome new Begonias. B. Griffithi and B. Rex are dwarf kinds, with a zone of silvery grey on the upper surface of their foliage; B. Heracleifolia nigricans and B. laciniata, larger sorts, with dark or brown-purple variegations. The curious little B. rosacea has nearly circular flowers, and is altogether a neat plant. Eucharis Amazonica and E. grandiflora, of which the first is, perhaps, only a larger flowered variety, are stove herbaceous plants of the first class, bold in character, free blooming, and showy. Gardenia citriodora, a dwarf, cool stove evergreen, bears its fragrant white blossoms profusely. Gesnera cinnabarina is a fine novelty with the habit of zebrina, having richly colored foliage; and G. densiflora, a free blooming new species, with the habit of oblongata, both highly desirable additions to our gay stove plants. Poitæa viciæfolia is a slender, elegant Mimosa-like plant, with vermilion-colored long Papilionaceous flowers. Thunbergia Harissi and T. laurifolia are two noble stove climbers, producing pendant racemes of large pale blue flowers, the effect of which from the rafters of a hothouse must be very fine. Tydæa Eeckhauti and T. Ortegiesi are showy hybrids, with the character of Achimenes picta, and of a rosy red.

There are but few important additions to the list of Orchids. Aerides Wightianum is a distinct and charming plant with apricot-colored flowers. Angræcum sesquipedale is a superb thing, Vanda-like in habit, with the largest flowers known in the family, pure white when expanded. Cypripedium Fairieanum and C. hirsutissimum are two distinct and handsome additions to the evergreen section of Lady's Slipper. Lælia Brysnia is very rich-looking; and finally Trichopilia crispa is a charming frilled-flowered dwarf epiphyte, near T. coccinea, but with the flowers crispy edged.—*London Florist.*

ON TRAINING AND STANDARD HONEYSUCKLES.

BY CLERICUS.

Possessed of such delightful fragrance and elegant climbing habit, this plant is universally admired. Possessed of sterling charms, it deserves to be cultivated in all gardens, and in every variety of form which its nature will allow. As it is exceedingly accommodating with regard to treatment, it is much to be regretted that, in most instances, it is merely grown in those artificial circumstances where a wall or a trellis, or something equally formal, is afforded for training it. Supported by a pole, so as to compose a pillar, it is hardly ever to be seen; pruned into a dwarf bush, and thus making a fine border shrub, still seldomer; trailing over rockwork or a rocky bank, I have never yet observed it; nor have I ever noticed it planted thickly as a bush, and forming entangled beds, nor growing amongst Ivy, nor planted extensively to twine round the stems of trees in shrubberies, nor covering bushes of Hawthorn or similar plants in the ruder parts of

pleasure-grounds ; nor, in more than two or three places, pruned to a standard of four or five feet high, and developing a large half-drooping head, which almost sweeps the lawn. And yet, for each and all of these objects, it is peculiarly well adapted, while such treatment, would in itself give a great and delightful variety to a flower-garden. A short sketch of all these methods may not be unacceptable.

Honeysuckles are not generally at all suitable for training on walls. They are chiefly twining plants, and require something to wind and cling around. The Etruscan and yellow-flowered kinds (*Caprifolium Etruscum* and *flavum*), with the evergreen sort (*C. sempervirens*), are, however, tolerably fitted for clothing low walls. But they will need much pruning in such situations, at first, to prevent the lower branches from becoming bare, and to induce them to throw out laterals freely. For trellises, of various descriptions, Honeysuckles are much more appropriate. They can be trained over these so as to have almost a natural appearance, and whether the trellis be in the form of an espalier, or an arch over a walk, or a covering to an arbor, or any small erection, they will only need tying to it by some of the main branches, while the other shoots can be wreathed into the trellis. Here, as in the last-named case, much pruning will be wanted for a time, to get the plants into a good lateral and flower-bearing condition. A pretty diversity in training Honeysuckles thus might be obtained by the use of poles, with chains or ropes hanging in a deep curve between them, so as to compose festoons. By fastening two or three main stems along these chains or ropes, and pruning them to give an abundance of laterals, very elegant festoons might be formed in a few years.

Supporting Honeysuckles by poles is much superior to the method of sustaining them by trellises, because more natural and better calculated to show the plants to advantage. Indeed, this is one of the best of all ways of managing them. The poles may be from six to ten feet high, and either single, or in threes joined together at the top, or in threes kept apart by crossbars. Perhaps the single poles are the most beautiful. A specimen, planted at the base of one of these, may be tied to it, or suffered to twine round it ; and as it rises, the leading shoots should now and then be stopped, in order to force them into a lateral growth ; for the main beauty of a thing of this sort consists in having the entire pole well clothed with branches and blossoms. If the former are obtained, the latter are nearly sure to follow. Pruned so as to make a dwarf border shrub, the Honeysuckle will add a very agreeable feature to a shrubbery border. It has only to be efficiently cut down while young, and it will soon acquire the habit of making nothing but short blooming shoots ; or, should it occasionally send out a long rambling branch, such as it usually climbs with, this must be cut off at once, and its disposition to produce such shoots will in a very short time be checked. It can then be pruned every winter as an ordinary shrub, taking care to remove straggling shoots in the summer when they appear.

For trailing amongst rockwork, or over a rocky slope, Honeysuckles are exceedingly good ornaments. They have a natural propensity to trail ; and if the shoots are here and there plunged beneath a small mass of rock, or merely buried in the soil for a few inches of their length, they will thereby gain fresh vigor, and will not too much conceal the bolder outlines of the rockery. Pruning will be as useful in this case as in the others that we have mentioned ; for, by shortening the lateral shoots, they will be induced to grow in clusters, when the display of flowers will be more effective.

Nothing would make a more beautiful bed or mass on a lawn, or in some retired part of a pleasure-garden, than a group of the late-flowering common Honeysuckle. It should be planted about eighteen inches or two feet apart, treated like a low shrub, as already described under that head, and, after the plants have gained some size and strength, a few of the more spreading shoots may be allowed to grow into the other plants, and thus an interwoven mass will speedily be created, which will simply require a little pruning and regulating each winter.

What I mean by planting Honeysuckles amongst Ivy is, where Ivy is used for mantling a building, or a ruin, or rocks, or is permitted to overrun a small tree for the sake of picturesqueness, a few Honeysuckles, if trained up amidst it, would greatly improve and diversify its appearance.

The practice of letting Honeysuckles mount the stems of trees in plantations is pursued already in some gardens. It deserves, however, to be more frequently followed. The trees chosen for the purpose should be principally round the outside of shrubberies, because the Honeysuckle will flourish best where it can get air and light. A small number of trees may always be abandoned to such an object, even should the Honeysuckle strangle them, which it will not inevitably do. With care to keep the plants from being blown away from their support, they will not demand other attention.

Every one who has visited forest-like woods, must have been pleased with the aspect of Honeysuckles growing over bushes. To obtain these features in the rougher portions of pleasure-grounds is surely worth attempting ; and this may be done by using bushes as supports. By planting the latter at the bottom of bushes that are three or four feet in height, it will, if left to itself, give a character of the most picturesque beauty in three or four years.

The plan of training it to a standard of from four to six feet high, is a mode to which I would afford some prominence, in connection with a very similar way of managing the common Ivy. As a companion plant to a standard Ivy, a standard Honeysuckle would be an extremely desirable object. They are both produced by the same means. Pruning to a single stem, and when this has gained the required height, stopping it, and producing a head of branches, is all the preparation needful ; and a trifling subsequent pruning will carry the plants forward without further trouble. To establish a Honeysuckle as a standard, it should have a stake to uphold the main stem ; and as it will be advisable to continue this after the head is formed, lest a strong current of wind should overset and break it, the stake should be an iron one, which will also contribute to neatness. The plant looks best on a lawn that is either flat or sloping, and the branches may, when the head is duly formed, be left almost to sweep the grass. If the plant be on a slope, the longest branches ought to be left on the lowest side, as this will create a greater elegance from the valley below. Perhaps the *C. periclymenum scrotinum*, or the late-flowering variety of the Woodbine, is most to be preferred for a standard. There is little choice necessary, however, as most of the Caprifoliums would answer the design, and *C. sempervirens* would probably be especially beautiful.

HEATING BY GAS.

The greatest difficulty experienced by the residents in large towns who desire to cultivate plants on their balconies, or, as some say, who would wish to have Hanging Gardens, is to find some satisfactory manner of heating them. Common hot-water apparatus is much too powerful for such small places, to say nothing of cost, or the great difficulty of applying it; and when gas, the obvious substitute, has been employed the atmosphere has been rendered unfit for the respiration of plants. This has been so notoriously the case, notwithstanding many ingenious contrivances, some of which may be found described in former volumes of the *Gardeners' Chronicle*, that all idea of applying gas to greenhouses has for some time been abandoned. It appears however from the following account, for which we have to thank our very intelligent correspondent at Trentham, that the difficulty has been wholly overcome. This announcement is of such universal interest that we feel it a public duty to give the invention all the publicity in our power.

"Having occasion," he writes, "to pass through Edinburgh a short time since, I availed myself of the opportunity thus afforded of visiting Dalkeith, and among other things which particularly interested me was a method of heating living rooms and greenhouses by means of gas. The apparatus consisted of what may be called a heater or stove containing water, through which the air heated by a gas jet underneath the stove is carried by a pipe, coiling round and round in the water until it arrives at the top, from whence it is conveyed into the chimney. The warmth may be perceived the moment the gas is lighted, and can easily be regulated by means of a tap. There is not the slightest smell of gas perceptible, and an entire absence of dust or sulphurous smell as from coals. The cost of heating a large living room apparently about sixteen feet square and proportionately lofty, is I am informed only about threepence per day. The advantages of this plan in an economical point of view are undoubtedly great, and with regard to cleanliness I will merely remark that the lady of the house informed me it had been in use more than a year, and that she should feel very sorry were she obliged again to have recourse to coal fires, as there is no dust or dirt of any description from the gas apparatus, and when a room is not required the gas can be turned off in a moment without any fear of accident.

"The inventor and patentee, Mr. Thompson, of the Dalkeith Gardens, in whose house the trial was first made and with perfect success, explained the manner of fitting up the apparatus, and from his remarks and my own observations I have not the slightest doubt either of the efficiency of its heating powers or its cleanliness. The temperature of a greenhouse heated in this manner was 75° when I was shown into it, and the gas had then been turned off about half an hour. The stove stood on one side of the entrance, and from it a flow and return pipe two inches in diameter was carried round the house. It is however needless to attempt a further explanation of a system at once so simple and so effectual as to cause surprise that the same kind of thing has not been put in operation before.

"I understand that Messrs. Thomson and Sons, plumbers, of Dalkeith, are preparing to manufacture this apparatus in quantities, and I feel sure that when it has had time to become more generally known it cannot fail to be properly appreciated. Dwelling houses, small greenhouses, offices, warehouses, &c., particularly in towns or their vicinity, where gas can easily be obtained, may thus be thoroughly warmed at a very cheap rate. Portable

greenhouses also, in one of which I saw this method of heating in operation, may now be manufactured either for exportation or otherwise, with the gas stove and pipes complete.

"In every other plan of this description which has come under my notice there have always been complaints either of the gas escaping, or of the air of the place being burned or other ways rendered impure or deleterious; but in this instance, owing to the small quantity of gas used, the low situation of the burners (on what would be the hearth of a common fire), and the effectual but simple manner of getting rid of the heated and impure air, these objections are entirely obviated."

Fig. 1.

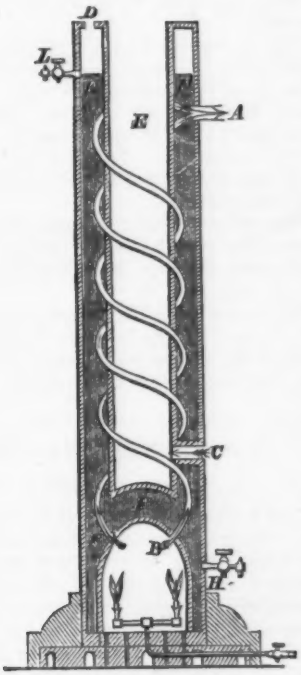


Fig. 2.

That some such contrivance as this had been used near Edinburgh we had previously heard, but in the face of so many former failures, we declined making any statement on the subject until satisfactory horticultural evidence could be obtained. This now appears to be sufficient.

Upon making inquiry concerning the apparatus in question, we find that it is the invention of Mr. Thomson, gardener to his Grace the Duke of Buccleuch, Dalkeith Park, who is also the inventor of "Thomson's Retort Boil-

ers," now coming into general use for heating forcing houses, &c. The apparatus is described as consisting of a zinc or copper column, containing from five to twenty gallons of water, having an inverted copper cone as a bottom, on which the jet or jets of gas play, and from which the heat ascends and exhausts itself in the water in a series of helical tubes, collecting into a larger tube at the top ; by which means all unconsumed gas and noxious products of combustion are carried, either into a chimney, or through an aperture in the wall to the external air. Thus a large body of hot water is obtained, from which a perfectly pure and wholesome heat is radiated.

Another important point is that its management is as simple as lighting a common gas jet, requiring no regulation beyond turning down the gas when the temperature is rising too high.

The accompanying figures will further explain the nature of the contrivance :—

Fig. 1. represents the external appearance of one of the handsomer patterns ; Fig. 2 a section common to all, the only differences among them consisting in decoration and size. The letters in the latter explain details, viz.—*A*, exit of hot air from gas burner to vent ; *B*, entrance for hot air from gas burner to spiral tubes ; *C*, entrance for cold air to expel heated air from chamber ; *E*, hot air chamber ; *D*, opening for the supplying water to boiler *F* ; *G*, gas burners ; *H*, aperture for emptying boiler ; *L*, guage for water level.

The price of the apparatus will necessarily vary with circumstances. A stove like Fig. 1 holding six gallons of water is 5*l*. 5*s*. ; this we suppose is exclusive of fixing, &c. But upon such matters inquiry must be addressed to the makers.

The only probable source of failure that occurs to us at present is that the apparatus may be imperfectly constructed, in order to meet the exigencies of the numerous worshippers of low price, under the mistaken idea that they are sacrificing at the shrine of cheapness.—*London Gardeners' Chronicle.*

THE VERBENA.—SELECT LIST AND CULTURE.

BY JAMES S. NEGLEY, PITTSBURG, PENN.

The Verbena has become so general a favorite, that a description of some of the best new varieties sent out the present Spring, and their culture, will no doubt prove acceptable to many of your readers. Rapid improvement has been made upon the Verbena within the last two seasons. The old type is entirely changed. We now possess every shade of color, and what has been so anxiously looked for by the florist, viz., large distinct eyes like the Auricula. The great difference in the habits of the Verbena adapts it as well for exhibition purposes as for the open ground.

To those who have the convenience and old plants, we would say that February is the best season for propagating by cuttings. Artificial heat is absolutely necessary for the purpose. The old plants should be forced into a vigorous growth and be syringed over once a day ; this causes the young growths to develop roots on the stem below the leaves. The next thing to do is to prepare a well tempered hot-bed (if a regular propagating house is not at hand). Plenty of leaves or long straw should be mixed with the dung to make a lasting heat. When the fermenting materials are thoroughly mixed, shape the pile and put on it a one light frame made to fit the sash

closely. Inside the frame place six inches of old tan or saw dust on top of the manure; make the surface smooth. When the heat is about 60°, get some pans or shallow boxes, fill them two inches deep with light soil, cover it with one inch of clean white sand, then make the cuttings of the young shoots on the old plants. Unlike most other cuttings, they need not be cut off close to a joint, but a portion of the stem may be left below the leaves. If the variety is scarce, one pair of leaves to a cutting is all that is necessary. Insert the cuttings in the sand, one inch apart, press the sand close to the base of the cuttings and give them a gentle watering. Then plunge the pans or boxes into the tan or sawdust; shut up the frame and shade from bright sunshine. Water with a fine rosed watering-pot whenever the cuttings appear dry. Examine them every day, and remove all decaying leaves, which, if left, would soon destroy all the cuttings. With proper care, seven-eighths of the cuttings will be struck, i. e., rooted in twelve or fifteen days. They should then be inured gradually to the light and warm air. When "hardened off," pot them off, using three-inch pots, water and replace in a warm, close frame. As soon as the plants are established, they may be allowed an abundance of light and air. The leading branches must be pinched back occasionally to make the plants bushy. They may be planted out in the open ground towards the end of May.

Culture in the Open Ground.—The soil in the beds should not be too rich; if the plants grow rampant, they do not flower so finely or freely. Good strong loam, mixed with a little sand, and rotted cow manure is all that is required. The most pleasing and brilliant effect is produced by planting in masses or separate beds, using only one kind for each bed; this set off by a neat edging of sweet Alyssum, Cuphea platycentra (kept trimmed close), or Lobelia ramoicides. An occasional watering with liquid manure during the summer will prove of benefit.

Varieties.—The following list comprises a beautiful and distinct selection, one that will not fail to please the cultivator, especially if they have good taste:

Prince of Wales—bright ruby crimson, large lemon eyes.

Evening Star—intense carmine, large yellow eye, good habit, free bloomer, unsurpassed.

Celestial—pale, clear rose, immense truss, flowers freely; superb.

Lady Palmerston—delicate blue, large white eye; extra fine.

Geant des Batailles—brilliant scarlet crimson, dark velvet shading; first rate bedding sort.

Victory—bright rosy lilac, large white eye; much admired.

Mrs. Halford—waxy white, very large truss; positively the best white in cultivation.

Brilliant de vaise—shaded crimson, close creeping habit.

Ellen Murdoch—pinkish rose, large yellow eye; fine.

Imperatrice Elizabeth—violet rose, beautifully striped dwarf, compact habits; elegant foliage.

Dr. Gross—large reddish crimson; the most robust of all Verbenas.

Elizabeth Strange—white, with purple eye; charming.

Madame Abt—deep indigo purple; distinct and beautiful.

Admiral Dundas—crimson scarlet; very showy.

Odorata perfecta—remarkably fragrant.

Glory of America—fine showy scarlet.

Joshua Robinson—beautifully mottled with purple and white.

Pet surpassed—bright rosy pink, dark eye; very fine.
Purple Perfection—fine dark maroon purple.
Dazzle—vivid scarlet crimson, very dwarf and profuse bloomer.
Sarah—the best striped.

PLUMS.

BY WILLIAM TOMPKINS, GERMANTOWN, NEW YORK.

For twenty years I have paid particular attention to the cultivation of the various kinds of fruit, and for a number of years have been a reader of the *Horticulturist;* and I honestly acknowledge that my most valuable information has been acquired by reading the experience of practical men as therein given. I therefore take this opportunity to tender my thanks to the present editor, his predecessors, and the numerous correspondents for the large amount of useful and interesting information which they have respectively furnished for the benefit of orchardists and others. Feeling it a duty incumbent on me to say something also, I present this humble offering of facts which have taken me many years to acquire, hoping they may prove useful and instructive to the inexperienced, if no one else. I do not presume that what is here offered will be applicable in all localities where this journal is read; for in most places where the white man has made a permanent home on this North American continent, there I believe it may be found working the good work for which it was originally designed. In a country of such great extent, I well know that no one sort of fruit or mode of culture will answer for the whole; and if anything I write should come in conflict with the honest opinions of others, they will please to remember that it was designed for this place and its vicinity.

Downing, in his "Fruits and Fruit Trees of America," page 265, says: "The surprising facility with which superior new varieties are raised, merely by ordinary reproduction from seed, in certain parts of the valley of the Hudson, as at Hudson, or near Albany, where the soil is quite clayey, and also the delicious flavor, and great productiveness, and health of the plum tree there, almost without care, while in adjacent districts of rich sandy land, it is a very uncertain bearer, are very convincing proofs of the great importance of a clay soil for this fruit." The above is strictly applicable to this place, to which, without doubt, the writer intended it to apply. The "facility" with which the plum is here grown would surprise those persons who, unfortunately, are not able to raise it without jarring the trees and catching the curculio. Really, Mr. Editor, if we could grow plums only in that way, I think their cultivation hereabout would soon be abandoned. A person with an orchard of several hundred trees would find it a tedious and an unprofitable business. There are several good-sized orchards in this place and vicinity that produce almost annually heavy crops without taking any measures to guard against the depredations of the curculio, or any extra care in pruning or cultivation. The largest and most productive orchards are on the ridge land, within one mile of the Hudson river. The soil is in some places a heavy loam, in others clay, and doubtless possesses the inorganic manures most congenial to the health and longevity of the plum, as there are in some orchards trees of remarkable size and age still enjoying good health and producing heavy crops. I have taken some pains to gather statistical information as to the amount of the crop, and am

really astonished at the result. Besides the orchards, there is not a farm yard, or garden that is not well stocked with them; even the humblest cottager has plums for sale. The crop of 1855 was greater than ever before, and it must have been very great throughout the State, as the market was so completely gorged with them as hardly to pay the expenses of picking and transportation; later in the season, when the bulk of them were gone, they sold better. These facts ought not to deter any one from planting or taking an interest in the culture of this fruit, as we may not have another crop like that in many years. Certainly they had not been so plenty and cheap in the New York market within the preceding ten years.

It is worthy of note that those trees that fruited to excess that year were much injured and some were killed. Two trees of a variety known as Sharp's Emperor, about seven years planted, were so densely loaded with fruit, that I was compelled to prop them up or they would have broken down with the weight. When the fruit was about half grown, these trees lost all their foliage, and soon after the plums began to drop with as much ease as ripe hickory-nuts, and in a few days they were all off. These trees have since died. Other trees of the same kind that fruited moderately, ripened well, and the last season were in a thriving condition, showing much fruit. Again, trees of the Bolmar that set as much fruit as the first mentioned, when pretty well advanced towards maturity, finding their stock of nutriment exhausted, cast about half of their fruit; the rest ripened well and attained good size. These trees are still alive and promise well. Experienced orchardists well know that excessive fruiting exhausts and weakens the wood-producing power of a tree, and should be guarded against if possible, although where one has extensive orchards, it seems to be too much trouble to thin by hand, and in this case the labor of the curculio should not be looked upon as unfriendly. Nature, or rather a kind Providence, has sent these industrious insects to thin the fruit. Sometimes they do it well, but oftener to excess. Were it not for this insect, we have good reason to believe that certain sorts of the apricot and plum would soon become extinct from excessive fruitfulness.

There is one variety of the plum, called the Yellow Egg, which is more highly valued and more extensively planted by those that know it than any other. It is a strong grower, very productive and rarely knots, qualities that are seldom combined in a single sort. It is mostly propagated from suckers, as we have it, root and branch, from the original. In England it is called an American plum, and no doubt it originated in the valley of the Hudson, as it has been cultivated here from time immemorial, growing with almost as much ease and facility as the willow. It also makes the very best of stocks, on which to work other plums that are difficult to grow on account of knotting or other constitutional defects. In sandy districts it is apt to drop the fruit before maturity, plainly showing the advantage of a clay soil for the plum. Downing has somewhere said, in giving advice to young planters, "Look around and see what varieties thrive best and are most productive in your immediate locality, and plant mostly of them." The above advice is truly valuable, and every planter should avail himself of it. Certainly more money has been realized from the sale of the Yellow Egg than from any other sort that is here raised. It is also longer lived and more reliable than most others.

The only really serious drawback to the cultivation of the plum is the knot. Some varieties are so much subject to it as to compel us entirely to

abandon their cultivation. Different opinions are entertained by orchardists as to the cause. Some attribute it to the sting of an insect, some to decayed plums coming in contact with the branches, and others to a constitutional defect. The latter is, no doubt, the true cause. Propagating from suckers taken from badly diseased trees, is believed also to increase and aggravate it. If suckers are used for stalks, they should by all means be taken from those varieties which never knot. Medical men say that it is an uncontroverted fact that certain diseases, from which mankind suffer, are hereditary, amongst which are consumption, scrofula, &c. Why may not the same rule hold good in the vegetable world? The writer believes that such is the case. Having frequently examined the knots when in the soft or incipient state, he has never been able to discover any insect or worm at that time; but when the knots become old and crack, there can sometimes be found a small worm about a quarter of an inch in length. Certain sorts of the plum have been subject to this disease for thirty years or more. I distinctly remember a fine orchard of the damson, that for many years was very healthy and productive. About the year 1825, the knots appeared in it, and in two or three years it was wholly destroyed. The true damson is a small blue plum, and remains on the tree till hard frost, frequently after the foliage is gone. It is now seldom seen.

A writer in one of the back numbers of the *Horticulturist* advanced the opinion that the knot was caused by decayed plums remaining on the trees, as he had frequently found the limb diseased directly underneath. If such be the case it is something new to us at least; nurserymen are well aware that seedlings which never fruited are frequently seen badly knotted. These facts ought to convince any one that decayed plums are not the true cause. "Is this disease contagious?" is a question often asked. It does seem to be so sometimes, for it has been frequently observed, in certain orchards, composed mostly of varieties which rarely knot, that a few knots suffered to remain for a few years, will seriously affect trees in close proximity. If, then, trees cannot be kept free of knots by cutting out the affected branches two or three times a year, they had better be taken out and burned.

Among the varieties tested by myself and others in this vicinity, the following may be relied on as seldom or never affected by the knots:

Coe's Golden Drop.	Bolmar.
Yellow Egg.	Sharp's Emperor.
Imperial Gage.	Downton Imperatrice.
Roe's Autumn Gage.	White Damson.
Italian Prune.	York Egg.
Emerald Drop.	Peach Plum.

The last named variety, a drawing and description of which may be found in the January number of the *Horticulturist* for 1855, is so valuable, that it should be found even in the smallest collection.

[It is certainly very pleasant to hear of a locality where the plum succeeds so well, and where the curculio is a blessing! There, is another district, now within reach of the markets of Philadelphia and New York, where the plum seems to thrive almost without cultivation; it is in lower Delaware, lately made accessible by a railroad. The quantity of this fine fruit brought from thence last year was astonishing. We shall thus be compelled to depend upon certain places for particular fruits, and grow in each situation what is found by experience to be its speciality.—*Ed. H.*]

HYBRIDISING THE GRAPE.

BY JOHN FISK ALLEN, SALEM, MASSACHUSETTS.

In the April number of the *Horticulturist* is an article on hybridising the Grape Vine, by Wm. N. White. It refers particularly to the seedlings of Mr. Rogers of this place. Mr White says, "that if these vines produced (being true hybrids), and set their fruit well, and seed freely, it is remarkable; and should their fruit prove valuable, and they be brought into general cultivation, it will be the first instance of the kind in history, and I for one congratulate him on his success, if he has really succeeded."

These vines of Mr. Rogers, grown from seed of the native Fox Grapes, are true hybrids. They were alluded to in the report of the Fruit Committee of the Massachusetts Horticultural Society in 1856. The bunches are well formed, large and fine. Of the quality of the fruit I am not prepared to speak. If I gave any opinion, it would be that the fruit retained too much of the fox flavor, and more pulp than would suit the general taste. The specimens tasted were not fully ripe. Several years since Mr. Amos W. Stetson exhibited grapes grown from seed of the native, impregnated with Black Hamburg. The Curtis Grape was thus produced. It resembled the Isabella much in color and form of bunch, and is rather earlier.

I have been producing seedling grape vines for twenty years from the Eastern or European varieties, and find that the tendency is in many kinds to run back to the original; the fruit produced resembling the "Verdelho," the Madeira wine grape. The Black Hamburg usually reproduces itself. Of course there has not been any cross here.

I have three fine seedlings, one red, two black, where a cross is apparent, the foliage showing this. In a grape house where several sorts are in blossom at the same time, this may be effected by the bees or by the wind. This crossing is not so difficult as Mr. White imagines. It is often two or three days before the pollen falls from the anthers, and before this takes place the stigma may have been impregnated as above. Many kinds that set badly under glass, such as Muscat of Alexandria, drop the anthers entire without shedding the pollen; and again, the stigma in moist weather is often enveloped with moisture, so as to prevent fecundation until the pollen has fallen, giving an opportunity for foreign aid. With the natives the chance to impregnate is good, as the anthers are often close to the base of the embryo, and it would seem that the aid of bees was necessary for fruitfulness. This defect in the blossom appears to me the cause of the bad setting of the wild grape.

I have impregnated the Wild Grape, the Diana, and the Isabella with pollen of the European, saved in a tin box and kept dry several weeks before using. In the third edition of my "Culture of the Grape," at page 151, can be seen a representation of the bud and flower, and of the latter, deprived of the anthers. At the 149th page begins directions for raising new kinds of seed by hybridization. Here mention also is made of my hybrids raised from the Isabella. The idea of Mr. White, that hybrids could not be raised in this way was entertained by many prominent horticulturists at that time (1843 and '44). As the foliage of the seedlings developed, much curiosity was manifested by these persons in noting the evidence that the experiment was successful. A white early grape, a red or purple late grape, a round black and several oval late black grapes

were thus produced. No one acquainted with grape culture would doubt, after an inspection of the vines, that a cross had been effected. The foliage of the white grape more nearly resembles the native than does that of the others, and it is less subject to mildew. This vine I am now sending out to subscribers, that they may propagate it for sale, and thus disseminate it more rapidly than I could do. It does not root readily from cuttings, but it is readily increased by layers. It is very sweet, juicy and free from pulp. Seedlings of another generation from these grapes may fruit this year or the next, and the expectation seems reasonable that other good varieties may be produced. The Isabella is a perfect flowering grape, and usually reproduces itself from seed, when not impregnated artificially.

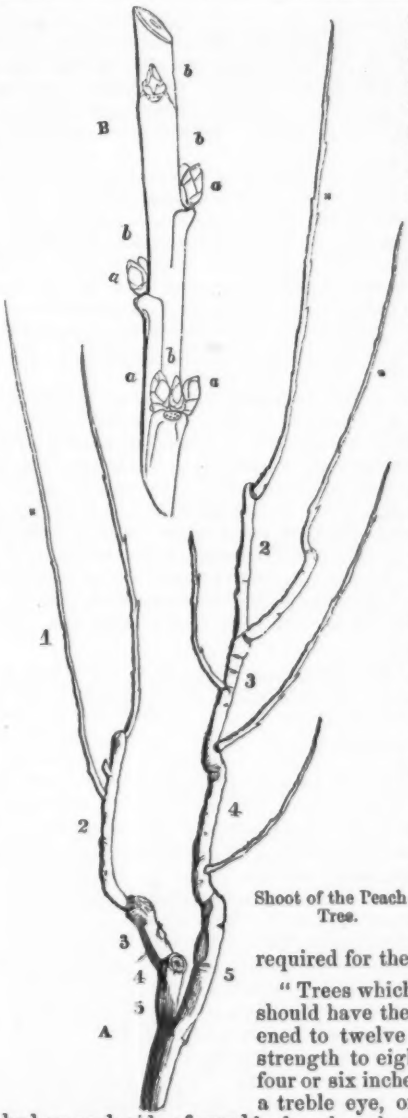
THE PRACTICE OF PRUNING; THE PEACH.

FROM THE NEW EDITION OF LINDLEY'S THEORY OF HORTICULTURE.

The mode of bearing is as follows :—A, represents the branch of a Peach tree. The figures 1, 2, 3, 4, 5, denote the respective ages of the portions of branch opposite. The asterisks at the sides of the shoots, indicate the place to which these may be shortened at the winter pruning. B, is a portion of a bearing shoot furnished with both wood and blossom-buds ; *a*, *a*, *a*, *a*, are blossom-buds ; *b*, *b*, *b*, *b*, wood-buds.

Peach and Nectarine trees bear their fruit exclusively on wood of the preceding summer's growth. For example, if one pull a Peach in the summer of 1847, it must be from wood formed in the summer of 1846, and which had no existence, as a shoot, in 1845, although then its origin might have been traced to a vital point within a bud. Such an almost invisible point was the shoot B, in 1845. In summer 1846, this point, developed from a bud, grew a shoot, furnished with leaves disposed singly, in twos or in threes, along the growing shoot. In the axil of each of these leaves, the rudiments of a bud were formed. The leaves, having accomplished their office, dropped in autumn, whilst the energy of the young buds continued to increase. Their winter appearance is represented in Fig. B. The blossom-buds are distinguished by their plumpness : they have an ovate form, which gradually becomes globose : they have a hoary appearance, owing to the scales opening and exposing their downy integuments. The wood-buds are slender and conical. Their scaly covering is less deranged by expansion of their interior parts in early spring, and consequently they exhibit less of that hoary pubescence by which the others are distinguished. In the case of triple buds the middle one is generally a wood-bud.

The Peach differs materially from the Pear and Apple trees. In these a shoot may be shortened to any bud, and the one immediately below the cut will almost invariably produce a shoot ; but the Peach shoot must be cut to where there is a wood-bud ; for if cut to a blossom-bud only, no shoot can result. Sometimes all the buds on a shoot are blossom-buds, except the terminal one, and one or two at the base. Such shoot must either be left its entire length, or cut back to the wood-bud at its base. The shoots of the Peach naturally terminate with a wood-bud. If this be cut off, the blossoms on the part left will expand and the fruit may set, but all will prematurely drop ; thus, if all the buds marked *b* were blossom-buds, they would expand ; but the eight blossoms would either drop without setting, or the fruit would



Shoot of the Peach Tree.

drop at the time of stoning; at all events, a leafless, budless shoot would result, incapable of further vegetation. It dies downwards to the first wood-bud. The blossom-buds, *a* of B, will produce four Peaches, but one is enough to leave to come to perfection. From the wood-buds, *b*, shoots will proceed; these, in the course of the summer, will form buds for future bearing; and a twelvemonth hence they will appear similar to those on B, which, having once borne fruit can do so no more, and therefore its place must be supplied by the most appropriate shoot it produces at or near its base, or by a shoot from an adjoining branch.

These facts are the foundation of all the long intricate plans for pruning and training this tree. The following are, I think, the best *concise* directions which have yet been given on this subject:

"Commencing with the winter pruning, the first rule to be laid down as a basis for all the rest, is to shorten every shoot in proportion to its strength, and to prune to where the wood is firm and well ripened: this will cause all the pithy and unripened wood to be removed, thence ensuring a supply of that which is better ripened for the ensuing year. But in order to give every facility to the ripening of this wood, it must be trained thin, not in profusion according to the general custom, but such shoots only as may be required for the following year.

"Trees which have arrived at a bearing state should have their strongest bearing shoots shortened to twelve or fourteen inches, those next in strength to eight or ten, and the weaker ones to four or six inches, pruning each to what is termed a treble eye, or that where there is a blossom-bud on each side of wood-bud: where branches are not in a bearing state, these treble eyes will not be found; they must therefore be pruned to a wood-bud alone, which is always known by its sharp point.

"In May, the season for disbudding the tree, all foreright shoots, as well as those from the back, must be carefully removed with a sharp small-bladed knife, taking care to cut close to the branch, but not into the bark: a few, however, of those foreright shoots had better be cut within a quarter of an inch only, which will leave two or three leaves to each, to shade the young fruit, and such slight wounds in the branch as have been occasioned by cutting the shoots off close.

"As soon as the young shoots have grown long enough, the leading one from each branch should be nailed neatly to the wall, selecting one or two of the side shoots produced lower down the branch, and training them parallel also. This applies to those of the stronger branches, at and near the extremity of the tree. Those in the middle and near the bottom, will allow of but one shoot probably in addition to the leaders; this will depend upon the space left in the winter pruning; if sufficient, it is always better to have a young shoot on each side as well as the leader, than to have only one, for it is by this arrangement that a succession of young wood can be kept up throughout every part of the tree.

"Should young shoots, indicating extraordinary vigor, any where make their appearance, they should immediately be cut out, unless where a vacant part of the wall can be filled up, because an excess of vigor in one part of the tree cannot be supported without detriment to the other. Peach trees, when in a state of health and vigor, generally throw out laterals from their stronger shoots; when this is the case, they should not be cut off close, but shortened to the last eye nearest the branch; and if there is room, one or two of those first produced may be nailed to the wall; or the middle shoot may be cut out, leaving the two lowest laterals, and allowing them to take its place; thus frequently obtaining two fruit-bearing branches, when the former one would, in all probability, have been wholly unproductive of fruit the following year."

[The American reader will not fail to apply the theory to our climate; here the "wall" part of the above instructions is rarely resorted to.—*Ed. H.*]

WISTARIA FRUTESCENS, VAR MAGNIFICA.*

More than a hundred years before the introduction of the *Chinese*, Europe possessed the *North American* Glycina, now called *Wistaria Frutescens*. However, as frequently happens in such cases, the new comer has supplanted its predecessor, which it surpasses in the great development of its stems, in the astonishing profusion of its flowers, and in the size of its azure-colored clusters. To these advantages of its rival, the United States species can boast on its side of flowering on branches previously supplied with leaves, as well as of exhaling in the autumn an agreeable perfume. In other respects the resemblance is seen in the harmony of the general appearance, in the graceful drooping of the clusters, which are of a rich violet color.

This tint is succeeded in the variety *magnifica* by a lilac color, with a metallic sulphur-colored spot. Its clusters, instead of being pendent, grow horizontally; the flowers, instead of being far apart, are very compact in the clusters, much more so than the picture represents them. This variety has

* See Frontispiece.

the great advantage of flowering profusely, whilst the other hardly shows its flowers. Its blooming anticipates also that of the type, it being in flower towards the end of June. It has been produced from seeds sown by M. Delaville, the elder, head of horticulture at the castle of Fitz James, near Claremont (Oise), owned by M. de Beaumini, from whom I obtained it.

His grafts are multiplied rapidly. The specimens delivered have been very hardy. L. Van Houtte, *in Flore des Serres.*

MAY I GIVE MY CONIFERS GUANO?

When I am asked this question, my reply is, "Most certainly you may, with the best results." Indeed, there is hardly a plant (probably not one) to which this invaluable manure may not be applied beneficially, if the application is made with proper precaution and at the right time.

To discuss this subject fully would occupy much time and space, but I am desirous of recording a few practical results in direct reply to the question at the head of this article. The information will, I have no doubt, be of use to some readers, because it is yet believed by many that guano is detrimental to Coniferous as well as to numerous other plants.

Two or three years since, a gentleman who is a great lover of Conifers, determined to test the efficacy of guano as a stimulant to various specimens in his grounds. The rate of growth for the summer was carefully noted, as well as that of the following year, when no guano was given. The difference was very marked. Some of the plants assisted by the stimulant pushed shoots more than double the length of those made in the following year, when no guano was applied.

It will possibly be asked, What quantity was given to each plant and when? The application commenced as soon as vegetation became active, and was continued at intervals until the season's growth was completed, and it was given in a liquid form. To those who are novices in the use of guano, the following hints may be necessary:

Procure an old tub, a tar barrel is as good as anything, throw into it half a dozen pounds of the manure, fill up with water, and stir till the whole is dissolved. In a few days the liquid will have become perfectly clear. Take a portion of it, reduce with soft water to about the color of pale sherry, and it is fit for use. Apply it at intervals of about ten days. After two or three applications, if a plant is thoroughly healthy and vigorous, the manure may be given a little stronger than is recommended above, but take care never to err on the strong side of the question, or the worst results may follow; rather apply often and much diluted than give it too strong. I have seen vigorous plants, other than Conifers, killed by too strong a dose. Used judiciously, it is an invaluable assistant to the gardener, but, like all powerful agents, it requires to be used with caution.

I may mention a circumstance in which the frequent application of soap suds to a Deodar greatly accelerated its growth. The tree alluded to stood on a lawn in front of a gentleman's dressing-room window, and was one of several similar in size, planted at the same time. To the one in question, the owner, at frequent intervals during the spring and summer, was wont to carry the contents of his washing-basin, at first without any idea of accelerating its growth; but after the first year, witnessing the beauti-

ful effect of the application, he followed it up designedly. From thus constantly attending to and watching the growth of the tree, he became, as he assured me, quite attached to it, and never failed to point it out to his friends as the greatest favorite in his garden. It was worthy of all his admiration and attachment. G. L., *in London Florist.*

AN EXAMPLE AND A BIT OF ADVICE.

No matter for the neighborhood of what city the following extract of a letter received this last Spring emanates; suffice it that it is genuine and only a portion of a history of an enthusiastic gentleman, still young, with all the appliances for happiness which education and wealth can command. It suggests an aspect of American life which it is pleasant to contemplate, and which is by no means rare in our country. He says: "On the first of April there was not a tree, nor shrub, nor apparent preparation for either on my place; even you, I think, will agree that I have been busy to have planted in one month some three thousand five hundred trees, among which I may mention, as giving the most immediate effect, over two hundred evergreens, mostly of the Norway Fir, of remarkably fine development of form, branching luxuriantly to the very ground. These plants are large for moving, but have abundant roots, and I superintended their transplanting from a neighboring nursery, exercising the utmost care in the preservation of the roots in a moist state, and in the preparation of the ground for their immediate planting.

"My business in the neighboring city prospered greatly, and heaven has blessed me far beyond my deservings. I now find myself kept pretty busy managing what I have earned. Taking the admonition of my father, who abandoned public life at an early day, I have never entered it, though solicited to do so, preferring the peace and independence of private life to the honors (?) and emoluments of office; I indulge no political aspirations, and keep aloof from politics. I love the country, and am actually *retiring* to it; though yet young, my thirtieth birth-day to be celebrated in the coming house-warming."

Our correspondent goes into other details of interest with regard to his intentions. He means to be fully *employed* in his retirement, and has sought to know what small fruits will be the least trouble and yet yield a fair return. Currants, by the acre, will yield a good profit, and they have the advantage over some others, that they hang, if required, a long time on the bush, and can thus be picked when opportunity offers. Again, in case they do not meet a full sale, from any cause, they can be made into wine. Cranberries are another of the long-keeping, small fruits to which his attention may be turned, especially as he describes some of the land as suited to their culture. The sale of Cranberries is not confined to a few weeks, but extends over the entire year—an advantage to be taken into account when deciding upon a kind for the principal crop.

Then we have known success to attend those who devoted their attention exclusively to one article, reminding us of Horace Walpole's story of the reply of a general to the inquiry, "Why, you must have a terrible time, always at work fighting?" "On the contrary," said the general, "we only fight four hours or so before dinner, and then we have all the rest of the day to ourselves!" By putting your acres mostly in Asparagus, when

near a city, very great returns are realized, and for most of the year it requires no cultivation whatever. The interval may be devoted to your fruits for home consumption, and to the ornamental around your dwelling; in other words, you can have the rest of the year to yourself. It may be that you do not choose to expend a very large part of your income in the purely ornamental, and, if so, it will be pleasant to think that all the money that comes out of the strong box for wages, &c., &c., went into it from the produce of the vegetable or fruit garden, be it Asparagus, Celery (this requires more labor than the former), or any of the small fruits.

If of the latter you decline the currant, select the raspberry; or if you can get the proper number of pickers at the proper time, and have a ready market, the strawberry is often very remunerative. Everybody's strawberries in the neighborhood, however, come in at the same time, and that time is rather brief; prices sometimes take a sad tumble just as your own lovely fruit is most tempting. Then strawberries have to be more or less carried, to their injury, to the consumer, and delay is fatal. With blackberries (cultivated), the season is a little longer, but they also must be carefully gathered at the proper moment, and likewise rapidly delivered; the raspberry and cherry somewhat the same. All will not select the currant; its advantages it is well to remember, however, and to have at least a fair portion of your ground occupied with the best kinds.

Returning to vegetables, we know of several instances where a speciality is selected with profit. Rhubarb cultivated by horse power has paid extremely well, and the owner has had "the rest of the year to himself." In whatever is undertaken, it is well to remember that success will depend on yourself. Get the best kind of what you intend to cultivate; see that it is adapted to your soil and climate, and, if possible, that it is always *a sure crop;* give it the right setting out, the proper exposure, shelter, (if it requires it), and the best manure. Economy in the latter will consist in not being *stingy*. This is your capital invested from which you are to reap your *cent. per cent.*, provided you understand your business yourself, and do not leave too much to assistants who take little interest in any of your proceedings, except the hope of pay-day coming.

You may have, when Jacob is sick, some time or other, to drive the wagon loaded with berries to the steamboat wharf or the railroad station; you must not be ashamed to do so, nor be too much enervated by leisure not to take a pleasure and pride in your success, no matter how much money you have risked in the bank or any other doubtful corporation. If you are not about to *attend to matters around you yourself*, it will be better to rent the land to somebody whose interest it will be to personally superintend every operation, and give yourself up to a small garden that you can look after from the library window; for we have never known the mere employment of hired labor to produce a fortune in small fruits and vegetables to the looker-on, who passed the morning with the newspaper or the classics, and the afternoon with "clever fellows" over a dozen bottles of costly foreign wines.

FOREIGN FRUITS.

Gradually, as civilization develops itself, new resources spring up to cheer mankind on the journey of life. The fruit, formerly denied to northern climes, now finds its way where our grandparents had to be content with description only. Steamships, in one generation, have brought the products

of the tropics to our very most northern latitudes. Twenty years ago a stray sugar vessel from Cuba brought a few oranges, mostly spoiled on the voyage; a rare bunch of bananas hung shivering without purchasers at a few of the confectioners' doors, and even in New York and Philadelphia the fruit of the West Indies was rare. The opening of California has now caused such an assemblage of steamships to pass the fruit-bearing islands, that oranges, bananas and pine-apples are accessible at cheap rates to all; they penetrate by the way of New Orleans or the Atlantic ports every village of the Union, and we venture to say are eaten abundantly in Canada when the ground is covered with snow, and the rivers bound in icy fetters. On board the steamboats of the Mississippi, we found last season, fried bananas daily for breakfast, and the bar-keeper and steward were always ready with Havana oranges and pine-apples. These tropical luxuries reach us when our own fruits are becoming scarce, and disappear with the strawberry in June. They are a great boon to those in health, and particularly acceptable to the invalid. As commerce increases they will become more and more abundant, and as the demand for the North will be incredibly great where heretofore no sales could be made, a profitable opening for intelligent cultivators will be found at many points of our own coasts. At Key West, and the adjoining Keys, the Havana orange and the banana, as well as the cocoa-nut flourish as well as in Cuba. Our successors will be supplied from Florida with an abundance of wholesome fruit. In April, New York displays in her shop-windows melons and the finest fruits of the lands of the sun, and from her wharves they are shot off to every town connected by railways. Such is not the least blessing of the invention of the steam engine, which so happily brings distant lands together.

There was a pretty story told in London, when we were there last, to this effect. England is supplied with excellent oranges by steam from Portugal. A wealthy member of the Jewish fraternity, who wished to benefit the poorer portion of his race, obtained the monopoly of the trade by selling oranges, to Jews only, at first cost of importation, or even, if necessary, a trifle below it. His agents would sell to none but needy Israelites; thus a good trade was insured to the profession, and the Londoners were content to purchase their Portuguese fruit from those who might otherwise have been mendicants, but for this liberal bounty of SIR MOSES MONTEFIORE. By employing a small capital in a perishable article, he gave employment to a large number of families; many an urchin, who knew not his benefactor, has offered the fruit to Sir Moses in the streets, and as the story goes, he never refused to purchase at an advance what he himself had sold below cost.

THE WARFARE ON THE CURCULIO.

BY JOHN PHINN, ROCHESTER, NEW YORK.

HAVING been a diligent reader of the *Horticulturist* from its commencement (if not in point of time at least so far as the volumes themselves are concerned), I have watched with much interest the warfare carried on with the curculio, and the various devices contrived to kill the little Turk or drive him from his prey. As yet I believe we are without a sure and simple remedy; but the following facts have been gathered from the records of past successes and defeats. The inference is my own.

1. No certain remedy has yet been found—one which will protect all the trees in an orchard or locality.

2. Some trees have been preserved and been loaded with fruit, while the crop upon others standing near them has been totally destroyed.

3. In such cases the preserved trees have generally been distinguished from the others by the application or vicinity of lime, sulphur, plaster, pigs, fowls, calves, manure, water, or some other agency offensive to the curculio.

4. The application of all these remedies often fails, and, where applied to a whole orchard or neighborhood, rarely does any good.

5. The curculio deposits several eggs in one fruit and one incision, and if fruit be scarce will make several incisions in the same fruit.

Connecting these facts together, it seems to me that the great secret of the success of comparative experiments with such remedies as lime, sulphur, plaster, &c., lies in the fact that the curculio prefers clean fruit and conditions favorable to the rearing of its progency to the contrary ; but it *will* try to rear them, let the conditions be what they may. If, then, we have an orchard of plums let us always leave a few of the poorest trees for the curculio and take our revenge on him after he has done his work by picking up and destroying the fruit and eggs. In a city it generally happens that some near neighbor is lazy enough to leave his crop in such a state as to protect ours ; but if isolated, let us take care that we do not render all our fruit equally disgusting to our tormentor, for then he will assuredly levy his contributions from all trees alike.

But the curculio no doubt *prefers* clean fruit and a favorable location for propagating its species, and if we offer it these conditions it will rather make a second puncture in such fruit than go to that which is covered with lime, and under which chickens or pigs stand with open mouth to receive it.

Rochester, May 1st, 1858.

GRAPES RIPENING IN THE SHADE.

FOR several seasons the best Isabella Grapes we have had, ripened thoroughly in a situation where they received no ray of sun till after twelve o'clock. In consequence of this absence of light for half the day, the vine is usually two weeks later in assuming its leaves than its fellows in the neighborhood, and yet the berries were larger, blacker, and more uniformly good and free from mildew. In their native places our wild grapes ascend trees, and there perfect themselves in much shade. Why should they not do so in gardens ? &c. We submitted the question to two experienced persons and give their replies.

"J. Jay Smith, Esq.—*Dear Sir*—With regard to your inquiry concerning grapes ripening in shade, I have always found that grapes ripen well, only when the foliage continues healthy and luxuriant until the fruit is ripe. It oftentimes occurs, when grapes are growing in a sheltered spot, but under the full influence of sun, that the foliage is covered with thrip, and occasionally red spider. These soon work a dreadful havoc on the leaves. The leaves dry up, are blown off, and the grapes hanging on the vines are perfectly exposed, the leaves being all fallen off except a few growing points. This is a *very common* occur-

rence, and where it is so, the half of the berries will be green, never ripening. On the other hand, when the vine happens to be trained in a rather shady position, the leaves are seldom destroyed by insects; consequently, the fruit has the full benefit of them, and ripens. I think, and I speak from observation, that grapes will ripen better when the plants are fully exposed, *provided* the foliage is kept in healthy and vigorous action, and plenty of it. I never practise *close* summer pruning on native grapes. I shorten the shoot about six eyes above the bunch, and allow all the *lateral* branches to remain, and cut out the branches when too thick. There is no doubt that our wine growers in the West have not yet practised the proper system of growing the vines; they keep them too small; prune too much. They should be allowed to extend yearly, until one vine covered a large space and inherited a *stem* or trunk where the sap would be more thoroughly elaborated. It has been frequently remarked that the best grapes are always found at extreme points of shoots, no matter how long these shoots may be. I am of opinion that the native grape will never be improved by crossing with the foreign. Our native grapes are all more or less subject to mildew, and any tinge of foreign blood would only increase that tendency. We must endeavor by cross impregnation and cultivation to improve our native varieties, without any admixture of the foreign element. I would expect more from an improvement on the foreign, such as the B. Hamburg crossed with Isabella, so as to impart a *leetle* of the foxy flavor, to give character and taste to the incipient sweetness of the foreign sorts. No doubt they would be improved by it. I have often spoken against the common practice of training the foreign grape up rafters, as it allows the fruit to *hang clear* of the foliage. In a grapery which I am now building, it is intended to form perpendicular trellises and keep the glass perfectly clear from foliage; the leaves shade and protect the fruit from the influences of the atmosphere. Those who have gathered strawberries, know that the finest flavored and best colored fruit is always hid among the foliage; but the foliage must have all the light and air that can be obtained.

"I would not expect to grow grapes to their greatest perfection by planting vines in shaded spots; but I would expect to find the best grapes where there is most foliage, just as you will find the largest potatoes where the haulm is strongest and healthiest.

"This is somewhat rambling—not so exact as an essay—but you will gather my views from it, on the subject you mentioned.

"Very respectfully, WILLIAM SAUNDERS, *Germantown, Pa.*"

Mr. Samuel Miller, of Calmdale, writes thus:

"Some years ago, when the grape crop was a total failure in this whole region, I discovered a framework loaded with the most perfect Isabella and Catawbas I almost ever saw. At the sides of the poor arbor there was no fruit, but the level top was covered and densely shaded by a thick crop of leaves, while underneath, as if to hide from the sun, hung in splendid clusters the grapes above alluded to. Scarcely a ray of sunshine fell upon them the whole day, except when the wind parted the leaves. These grapes were highly colored, and very finely flavored. Shade usually ripens the sweetest currants, raspberries and grapes in their native state, but when there is deep trenching and high manuring it may be different.

"Respectfully, SAMUEL MILLER."

EDITORS TABLE.

To Contributors and Exchanges, &c., &c.

Communications, Letters, Catalogues, Periodicals, &c., &c., intended for the perusal of the Editor, should be uniformly directed to the HORTICULTURIST, *Germantown, (Philadelphia,) Pa.* Packages by Express, &c, should be directed to the Editor, as above, by name ; they will thus reach him almost beyond a doubt.

JUNE.—We care not for the friendship of the man who does not revel in the delights of June. The merest tiller of the ground occasionally leans on his spade or his plough, to inhale the sweet breath of spring, delight his eye with the profusion of newly-developed beauties, and catch the cheering sound of the blue-bird or the twitter of the wren. The lilies of the field and the birds of heaven are pictures made for all, that by glancing at them the mind may be instructed, and necessary toil borne with patience.

The pursuits of the amateur gardener would be fruitless, indeed, if he were destitute of a delight thus conferred on all who gain a livelihood by the sweat of their brow; he must, if he is a true lover of nature's gifts, also rejoice in the beauty of a scene, to ignore which would entitle him to no share in the smiles of June. He will not make his own garden the horizon of his landscape, but will look out on the grand scenery of nature, with its garments of varied green, enamelled with white, and rose-colored and purple jewels. What a queen is nature, and how silken are the bonds of her rule! We read of the costly and dazzling magnificence of a regal drawing-room; but what is this to the levee of mother earth. Such a drawing-room is nature now holding, with rainbow glories above her head, a thousand subject blossoms all around her, and a verdant and richly-jewelled carpet at her feet; a poor imitation of which is the greatest triumph of the imperial loom.

In such open drawing-rooms the imagination of the poets of all ages have revelled, eschewing the stifling smoke of lamps, and the crowded saloons of mediocrity. It is sad indeed, when the inhabitants of a charming world have no perception of its charms, and can walk in the midst of beauties without observing them. But after being refreshed with this expanded acquaintance with the world's great garden, the amateur returns contented and pleased to his own limited domain, which yields him special pleasures in the season of growth. A large portion of the past months has been toilsome work, animated by hope rather than actual possession; but now hope is to be realized and labor repaid. The strawberry graces its turban of soft green with profuse blossoms and fruit; the fruit trees no longer look like barren sticks, but are garnished with beauty. The vegetables give expectations of a profusion of healthful food. Every day the soil has been broken by thousands of seedlings, either projecting a sharp spike or a minute branch. Warm showers exhibit their growth, and the hand of industry so lately reposing with all nature, scarcely knows where first to direct its efforts. Until lately the florist had to enter his greenhouse, or thrust his head into pits or frames to survey his treasures; but now they are less coy, and walk abroad in the unfettered parterre. What a source of delight it is to see the folded buds of the roses, and to catch a glimpse of the future

flower in the spindling branch of a carnation, or the rising stems of our bulbs! Every day brings forth new candidates for your approving smiles; until at length

> "Along these blushing borders, bright with dew,
> And in yon mingled wilderness of flowers,
> Fair handed June unbosoms every grace."

DOUGLAS'S FIR.—On page 252 will be found a representation of this noble tree, Abies Douglasii, which has become a great favorite in England, and is gradually creeping into our Atlantic coast plantations, where it may be said to be hardy as far north at least as New York, and perhaps more northwardly. At Wodenethe, during the two late cold winters, though the foliage was touched the buds were uninjured. It forms a pyramid of deep verdure, which in all its dimensions may almost vie with the loftiest pyramids of art. It's vast arms spread out in wide circles often nearly from the ground; at other times they issue from the summit of a tall colossal shaft. In general, the conic outline is regularly preserved, and stage upon stage, the branches decreasing in length, finish by a preëminent tuft at a height which astonishes the beholder. Three hundred feet is said to be attained by this giant. Its branches are pendent, which imparts to it a light and graceful appearance. It is a rapid grower.

THE MOREL, or Morchella esculenta, which most people would, from its general appearance, be disposed to condemn as utterly poisonous, but which is perfectly delicious and better than a mushroom, was very abundant hereaway during the rainy weather of May; and was as nice a morsel as a woodcock to the educated gastronome. The following, from Loudon's Encyclopædia of Plants, may give some of our readers a hint that they will thank us for: "Morchella, a name altered by Dillenius from Morchel, the German name of the plant. Fungi of a large size, appearing in the spring upon the earth. The eatable morsel is one of the most valuable of fungi for purposes of cookery, but is more frequently used in a dry state for sauces, than when fresh. It is found in the greatest abundance in places where trees have been burned, which led in Germany to a practice of burning down masses of forests for the sake of the future Morels. This practice proved so injurious that it became necessary to suppress it by law. The Morel is subject to many variations of figure and color, which are all referable to four principal forms. But there are also some legitimate species which have been distinguished by modern botanists."

We do not advise the uninitiated to cook the Morel; but with a perfect knowledge of the fungus, a dish fit for the best people is provided at doors where it is despised and disregarded. It certainly is not of an attractive appearance in the ground.

THE ILLUSTRATED BOUQUET is a beautiful parlor-table book, published in London, by E. G. Henderson & Son, Nurserymen, and orders are taken for it by G. C. Thorburn, Newark, N. J., for $10 a year, four numbers. The plants are finely drawn, grouped, and colored, and we can recommend it. The letter-press is useful.

NEW MAHONIAS.—One of our correspondents has received from Europe, eight new kinds of Mahonia; two of them are charged at $25, the Mahonia Bealii. We shall thus soon have variety and a great choice in these beautiful plants.

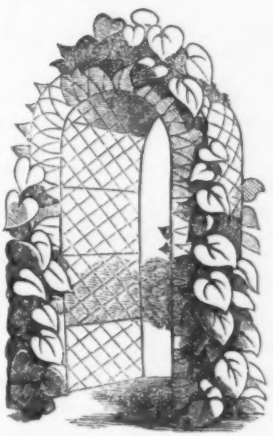
EASTER BEURRE PEARS.—Some of our Boston friends have united to send us a box of admirably kept Easter Beurrés, which, on the 22d May, are as unshrivelled and fair as could be wished. Mr. Eben Wright, Corresponding Secretary of the Massachusetts Horticultural Society, at the request of the exhibitor, Mr. D. T. Curtis, forwarded the box, which, with its contents, came in the finest order. Mr. Curtis is the inventor of a process for the keeping and ripening of fruit, which, we believe, he has not yet communicated.

This fruit must have made quite a sensation at the opening exhibition on the 15th of May, which Mr. Wright and others have assured us was decidedly the most satisfactory in contributions, attendance, &c., of any opening fair this successful society has ever held. Mr. Wright

adds, "could you see in this vicinity avenues of pear trees on quince stocks in the grounds of Messrs. Hovey, Wilder, or Austin, to say nothing of a host of others, who might be honorably mentioned, as alike successful here, you would not feel the shudder which must have seized you on reading Mr. Allen's article on pears in the May number. Our horticultural community are justly proud of the eminent success which attends the culture of this fruit."

We have seen those avenues and greatly admired them, and hope yet to be convinced that the culture of the pear may be made highly remunerative in other places than Boston.

TRELLISES.—Small trellises over walks may be introduced with effect, by judicious taste. As to summer-houses and arbors generally, too much insipidity is scattered about the world in suburban gardens, under the vain pretence of ornament and use. The majority are like toll-houses or meat stalls, destitute of elegance, use, and expression of purpose. A summer-house need not be utterly hidden; but it ought not to stare us straight in the face from a back wall, its ugly lattice-work without one creeping tendril, and its interior visible to every gazer, as if it were anything but a place of shade and rest. Though you never use it, it must appear fit for use or it is no ornament. It should be well shrouded with greenery, be easy of access, sufficiently inviting to attract a stranger, yet quiet in tone, and of a chaste, pleasing outline. Some suburban retreats have what are called "arbors," but which are a perversion of the name. The accompanying little sketch representing an arch covered with the Dutchman's pipe, Aristolocia sipho, is made of thick iron wire, and may safely be imitated.



HEATING BY GAS.—In the present number we give currency to an article, explained by cuts, on heating plant-cabinets, and houses, &c., by gas, with a view of inducing our American mechanics to look into the matter. There are many citizens who would gladly employ such an apparatus, and country gentlemen who manufacture their own gas; when they possess the apparatus all the extra gas wanted is made at a small additional cost.

In contriving such a gas stove, it must be remembered that common lighting gas is the most searching and deadly poison to plants, and it should never be risked to contaminate the air which they should breathe. No air from the house or room to be heated, should be admitted to the inside of the stove for fear of contamination by leakage; the air to sustain combustion should come from a cellar, an adjoining room, or from the outside through an underground drain or pipe, and it should be discharged when used, with the greatest care, that none escapes for the injury of the pores of the plants. The subject is an interesting one, both on account of its convenience and probable economy.

HEDGES.—Mr. Hovey says, in his May magazine: "It might be as well to advise all who wish to make a hedge speedily, to give up the task at once. It is utterly (in) vain to attempt any such thing. They are the work of time, and cannot be possessed by any who are not willing to patiently await their growth. With thorough preparation of the ground, good plants and planting, liberal manuring, and judicious clipping, a hedge may be grown five feet high in six or seven years—and not sooner."

PEA-WEEVIL, BRUCHUS PISI.—To destroy this, a correspondent of Mr. Hovey's says: "As soon as the peas are ripe enough to be gathered, let them be stripped from the pods, and dried carefully for a day or two in the sun. Then place them in a colander, and after covering them

with a plate, set the colander over a vessel of boiling water, until the steam has thoroughly passed among the peas. Then take them out, and spread them for a few minutes to dry, when they will be ready to put away. Thus every insect may be destroyed."

CATAWISSA RASPBERRY.—According to the same magazine, Mr. Pierce, of Washington, D. C., has raised this fruit in such quantities that he has sent to market to the extent of sixty quarts a day, through September up to the second of October. It is undoubtedly a valuable fruit, and we are expecting to hear of its improvement by hybridization soon.

GRAPE VINES.—We are following the fashion and collecting for experiment a rich list of the newer grape vines. Mr. J. Fisk Allen, of Salem, Mass., has obliged us by forwarding Allen's Hybrid, of which he says: "It is a fine, early white grape, equal to its male or pollen plant, the Chasselas of the French, and as *they* esteem this before all others in Paris, it is saying much in its praise. It is as early as any grape of any value, and has stood out this winter uninjured. No. 5 is a black hybrid; No. 8, a black or purple hybrid; all these are from the same lot of seed, and I have several others. No. 5 is a good grape, very like it's mother, the Isabella, but the foliage is that of the *pollen* or European vine. No. 8 has a very beautiful leaf or shoot when first pushing, unlike any grape I know, but resembling that of the Red Chasselas Royal of the French; this latter had nothing to do with its origin however. It is more tender than the others and is quite late, equal to, or as late as, the Isabella." Allen's Hybrid is now being extensively propagated for sale. From Samuel Miller we acknowledge the receipt of Clapier, Wright's Isabella, Clara (Raab), Brincklé (Raab,) Canby's August, Garrigues, Cassady, Kingsessing, and Lehman, for all which favors we shall endeavor to return a true account in due season.

NATURAL OBJECTS.—To define the differences between the pleasures derivable from the works of nature and those of man, is a difficult subject. Natural objects are common and obvious, and are imbued with an habitual and universal interest, without being vulgar. Familiarity with them does not breed contempt, as it does in the works of man. They form an ideal class; their repeated impression on the mind, in as many different circumstances, grows up into a sentiment. The reason is, that we refer them generally and collectively to ourselves as links and mementos of our various being; whereas, we refer the works of art respectively to those by whom they are made, or to whom they belong. This distracts the mind in looking at them, and gives a petty and unpoetical character to what we feel relating to them.

A fine poet thus describes the effect of the sight of nature on his mind:

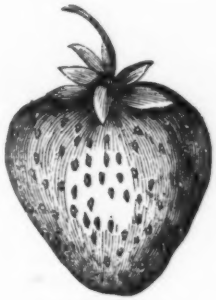
"The sounding cataract
Haunted me like a passion; the tall rock,
The mountain, and the deep and gloomy wood,
Their colors and their forms were then to me
An appetite, a feeling, and a love,
That had no need of a remoter charm
By thought supplied, or any interest
Unborrowed from the eye."

INSECTS.—Professor Asa Fitch says, in his new contributions to the Transactions in the New York Agricultural Society, "I sometimes think there is no kind of mischief going on in the world of nature around us, but that some insect is at the bottom of it. Certain it is that these little creatures, seemingly so insignificant and powerless as to be unworthy of a moment's notice from anybody but the curious, occupy a most important rank in the scale of creation, and on every side of us their performances are producing most important results, tending probably in an equal degree to our benefit in one direction, as to our detriment in another." It is impossible to over-estimate the value of these contributions to science, when we reflect that it is computed that all the species of insects taken together which exist in nature, do not fall short of four hundred thousand!

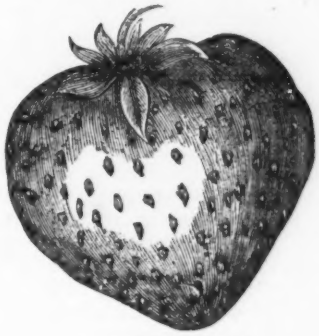
RHODODENDRON, AND APPLES.—Mr. Van Buren, of Clarksville, Georgia, writes that he now thinks Mr. McDowell's Rhododendron, figured by us in 1856, is the Catawbiense. "It grows," he says, "so much more luxuriantly, and is so much more brilliantly colored in its native haunts, that it led many botanists, as well as myself, to suppose it to be a distinct variety. I find by transplanting it, that it loses much of its brilliancy of coloring in the course of a year or two."

Mr. Van Buren thinks there will be a fine fruit season in Georgia, and adds, "A few days ago, I received a letter from a correspondent in Iowa, who informs me that our Red June and Aromatic Carolina apples have passed uninjured through three or four past winters, while many of the northern varieties were killed. I suppose that our varieties are of more recent origin, and have not become enfeebled by a repetition of grafting and re-grafting. Had the trees been raised at the South, I would then have said that the wood ripened more thoroughly than those raised at the North; the trees alluded to, I think, were grafted in Iowa."

STRAWBERRIES.—This month ushers in our first, and to many, the most attractive fruit of this latitude. Discussions will be frequent as to the merits of the various kinds, and we hope

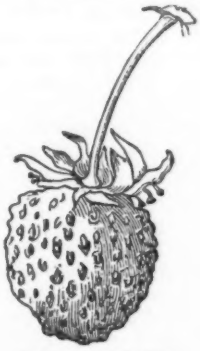


BURR'S NEW PINE.

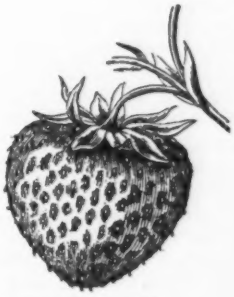


HOVEY'S SEEDLING.

to give next month a little experience from our own "experimental garden," in addition to the remarks of a practical man engaged in supplying the New York market.



LARGE EARLY SCARLET.



WALKER'S SEEDLING.

The two favorites with many, are Burr's New Pine and Hovey's Seedling, of which we happen to have the above portraits made in the season. But there are many other favorites,

such as Large Early Scarlet, Walker's Seedling, Marylandica, Germantown Seedling, &c., &c., &c. Longworth's Prolific, Genessee, Wilson's, Peabody's Seedling, and various others which will come in for review.

GRAPES—J. J. SMITH, ESQ.—I am delighted to see the deep interest manifested in the culture of the grape, and believing every little ray of light thrown upon the subject will be thankfully received, will give a few observations, which the last *excellent* number of the *Horticulturist* brought to my mind. In 1850, I took a tour through the western portion of Berks Co., where there was in all perhaps fifty acres of grapes (Catawba and Isabella) in bearing. Nearly all were affected more or less by the rot, some totally ruined, others half a crop, and some so badly injured as not to be worth gathering. One lot of perhaps half an acre was free from the disease, had a fine crop, and very nearly ripe. I had noticed all the rest of the vineyards which I visited were kept in neat order; no weeds; had been carefully pruned in the spring and as carefully tied to stakes. But this one, in which no knife, cultivator, hoe, or anything else had been used that year, the grapes which I bought a week or ten days after at $40 per ton, proved not quite so well ripened as they should have been, but were infinitely superior to others that had received great care and attention. Do we not sometimes work and trim too much? Last autumn in looking at a friend's vines, his Isabellas were a perfect failure, except one single vine, on the same trellis with the others, had a proud load of splendid grapes upon it. This vine, said my friend (it being at one end of the trellis), I forgot to prune in the spring; hence the grapes. Such results tell a tale which ought to make a knife blush. Ten years ago I was in Sinclair & Corse's establishment, near Baltimore, and there for the first time tasted native grape wine (and I would wish nothing better); I asked them how they treated their vines. Come and see was the reply. Their vines were trained on trellises some eight or ten feet high, the ground thickly covered with fresh leaves. In the spring when the frost is out and the ground dried off pretty well, they rake off the leaves, give a top dressing of manure, and I think dig it in slightly, then cover on the leaves again, and what waste there was in a year's decay supplied from the forest. That is all, besides pruning and picking fruit. Isabellas were the principal stock. And now I will ask a few questions which will no doubt get me into difficulties, but I will venture on it. Where does the exact point end, of foxiness or fragrance, and aroma commence? I love the smell of a rank fox-grape, and if a good variety, can eat them when in the forest and have nothing better. I have eaten Black Hamburghs, Golden Chassellas, St. Peters, Muscats of Alexandria, and have a fancy that I can appreciate them; but how many of us poor fellows can afford to have them? So we must strike for Delaware, Rebecca, Cassady, Emily, &c., varieties, which I do hope will last as good as they have commenced, and which are only a little behind the foreign sorts in quality, but vastly lacking in size. A second question is, Must we trench two and three feet deep to obtain the finest grapes, and to have the vines last? If so, why do not our old residents of the forest run their roots deep down, instead of creeping (as a sailor would say) between wind and water; or, in other words, close to the surface under the leaves? And why do young vines that have been set out in May, in a bed only a foot wide, trenched and manured a foot deep, run their little roots two feet out into the common soil not over three inches from the surface? And why did my border, five feet wide and three feet deep, filled up with leather shavings, old mortar, leaves, cow dung, &c., &c., keep their three year old roots in its fertile bosom, instead of their sneaking off ten feet and netting themselves under an old hot-bed, when they had but one inch of good soil on a hard, yellow clay, to pass through, to get over the path, and that path three feet wide and considerably used? These things puzzle me considerably, and suggest that a little less trenching would answer as well; less trimming, and a great deal of mulching would pay well. I mean to try it the coming season at all events. I hope some one will answer my queries, and greatly oblige an old subscriber. S. MILLER.

Calmdale, Lebanon Co., Pa.

ROBINS IN RHODE ISLAND.—MR. EDITOR,—Rhode Island is one of the breeding-places of the robin, and so numerous are they here, that we are obliged to cover our cherry trees and raspberry bushes with nets, if we expect any fruit. My own lawn is very frequently mowed; this gives the birds a fine opportunity to procure the earth-worms, which in moist mornings come near the surface. I have counted twenty pairs following the lawn-mower; and this morning was witness to a contest which gave great delight to my little children. A robin had seized an old worm which had the proportions almost of a snake, and found him disposed for battle. The bird, however, was determined on conquest, and at it they went; we witnessed at least twenty hard tugs both ways; one moment the head of the robin was depressed to the level of the cut grass; again up it went, then again down, and the see-saw was becoming deeply interesting; at every tug a portion of the worm was seen and then lost to view. At length the worm parted, and the robin flew off, no doubt delighted to be released from a *drawn* battle field. We ran to the spot, made a cut with a spade, and withdrew the remaining portion of the enormous worm from the earth, severed probably amid-ships, or in a state the sailors call half-and-half. CLIO.

CUPHEA EMINENS.—ED. HORTICULTURIST,—In your April number, I notice a correspondent asks information in relation to the usefulness of this plant for winter-blooming.

The writer also quotes the opinion of the Flower Committee of the Massachusetts Horticultural Society on the subject, and then indulges in a few remarks upon the exhibition of poorly grown specimen plants. The Canna Warscewickzii is next mentioned, and then follows an editorial note to this effect: "The flower is a glorious, deep crimson, and a valuable plant both for leaf and bloom." Which; the cuphea or canna? This description would apply justly to the latter, which is truly an acquisition both for the beauty of its foliage and blossoms and is an ornament to the greenhouse; but not at all to the former, which not only fails to answer the description in color, but is of very questionable beauty and value.

I cannot think you would for a moment recommend a plant so utterly worthless as the Cuphea Eminens. The opinion of the Flower Committee of the Massachusetts Horticultural Society, was by no means hastily formed, or given without due care and attention to all facts.

This Committee consists of seven amateurs, or professed florists, and no expression of opinion is ever made public in a report without first being endorsed by the whole Committee and then sanctioned by the whole Society at some regular meeting; so that any recommendation or condemnation of a plant is very likely to be correct. In the present case there was not a word said in favor of Cuphea Eminens—all joined in denouncing it; and "utterly worthless" is by no means too much to say.

It may, however, be urged that at the time of the Committee's report, we had only seen it as a bedding plant. Since the publication of the April number of the *Horticulturist*, I have made inquiries of most of our gardeners as to its qualities as a winter-blooming plant, and all say, that though treated with every attention, *it has never shown a flower*, and express their determination to discard it entirely. The florist who first introduced it into our vicinity from Europe, has expressed to me his regret at having unwittingly deceived the public in such a gross manner, as he trusted to the English description, and had never bloomed the plant himself. I might say much more, but think the above is a fair exposition of the opinion of all Boston florists.

E. S. RAND,

Boston, April 1, 1858. Chairman of Flower Committee, Mass. Hort. Society.

EVERGREENS AGAIN.—MR. EDITOR,—Will you allow me a corner of your Editor's Table, on which to lay still another "word" for evergreens, provided the word be short? I feel honored by the notice Mr. Sargent has taken of my essay. He has laid the republic of American planters under great obligations, by his extensive and careful experiments with the newer trees, both deciduous and evergreen; and his opinion on the subject in question deserves the greatest deference. Yet, is it not possible for him to mistake in his judgment of the hardiness of trees in other soils and climates than his own? All horticulturists know that the distance of

a hundred miles north or south, makes a wonderful difference in the hardihood of trees and plants. Not a few choice ornamental trees and shrubs, hardy at Rochester and Newburgh, are hopelessly tender in Oneida County. In the town where I reside, the Isabella grape generally ripens; in a village only nine miles distant, but several hundred feet higher, it never matures. Is it not, therefore, quite possible that some evergreens, "perfectly hardy" at Fishkill Landing, may not be so throughout Central New York, for which region alone I ventured to speak.

A word or two now in detail. Mr. Sargent misapprehends my remarks in reference to Pinus ponderosa. I did not represent it as tender, but simply compared its color and general habits with those of the Austrian pine, and said it bade fair to excel the foreigner, "but had not yet been fully tested." Of its hardiness I could not doubt, a specimen in my own grounds having passed through several winters without the slightest injury.

And so of several other pines. The reader of the first "word" must have seen that due honor was therein paid to Pinus Cembra, P. Laricio and P. Pumilio, though mentioned by their popular, instead of their scientific names. As to Pinus Excelsa, the fact still remains—I grieve to say—that, by the testimony of many witnesses, it is *not* hardy in this portion of Central New York. The wrecks of several fine specimens may be seen hereabouts, any day.

As to the heresy of making Picea Pichta synonymous with the Cracovian juniper, the printer must bear the responsibility of that. The brackets were not mine.

In "feeding" evergreens, there may, undoubtedly, be mistaken pains. A tree whose vigor is at all questionable, should not be stimulated into a succulent growth. But in the article reviewed by Mr. Sargent, the writer was professedly speaking only of hardy trees. Nor in the case even of these, is it desirable to induce a rank growth: their beauty is seriously impaired thereby. But there is so great a difference on the score of looks, between an evergreen standing in cold, wet, clayey ground, and one thriving in a warm and kindly soil, that I do not, after all, think it was far from wisdom to advise people (the majority of whom are so apt, from sheer laziness, to let their trees "go to grass") to "feed them with generous food, that they may make a vigorous growth, and always wear the bright hues of health."

In conclusion, allow me to say that seldom have I spent a pleasanter day than one passed, a few summers ago, among the evergreens, hardy and tender, at Wodenethe.

Clinton, New York. Respectfully yours, A. D. G.

JOHN JAY SMITH, ESQ.—MY DEAR SIR,—L. F. Allen speaks pear knowledge for the Buffalo region very truly, no doubt, but not for Southern Ohio. With us they do much better. Last year I got four dollars the bushel for Bartlett, White Doyenne, Dearborn's Seedling, Seckle, Louise Bonne de Jersey, &c, and three dollars for Burgamots; and had some twenty bushels from a few young standard trees just beginning to bear fair crops; from a young dwarf Bartlett, about three pecks; other dwarfs, a peck. I think with us here, pear-culture will pay.

Cincinnati.

CATALOGUES.—The season of catalogue-issues for the spring is over; we have but one to chronicle the present month, that of Thomas E. Cook & Sons, of Pleasant Ridge Nurseries, near Bendersville, Adams County, Penn., who have an extensive assortment of trees, plants, and shrubs, which we trust are extensively patronized, as they deserve to be.

HORTICULTURAL AND AGRICULTURAL SOCIETIES.

HARTFORD COUNTY (CONN.) HORTICULTURAL SOCIETY.—President, Gurdon W. Russell, M.D. Vice-Presidents, J. S. Butler, M.D., H. W. Terry, Hartford; Henry Mygatt, Farmington; Wm. F. Comstock, East Hartford; N. W. Stanley, New Britain; Norman Porter, Berlin; Sheldon Moore, Kensington; Salmon Lyman, Manchester; E. A. Holcomb, Granby; H. A. Grant, M.D., Enfield; S. D. Case, Canton; T. C. Austin, Suffield; Howard S. Collins, Col-

linsville; B. F. Seward, Southington. Corresponding Secretary, Thomas R. Dutton. Recording Secretary, Mason C. Weld. Treasurer, P. D. Stillman. Auditor, Seth H. Clark.

THE RHODE ISLAND HORTICULTURAL SOCIETY have sent in their list of premiums for the exhibition in June.

OFFICIAL REPORT OF THE CALIFORNIA STATE AGRICULTURAL SOCIETY'S FOURTH ANNUAL FAIR.—California is not unjustly called the Italy of the United States. The difficulty lies in the enormous distance between this great producing State and the older portions of the Union. It is almost impossible that we at the East should ever derive much advantage from her superior fruit region, unless it be in the way of wine or conserves. Notwithstanding this, we look with deep interest upon the facts set forth by their societies, and are not a little astonished at the transformation which the sudden influx of American mind and American industry has caused in the aspect of nature. The Report affords matter for thought, and for extended extracts had we the space at command. Lacking that, we can give but a hasty synopsis of the most wonderful doings which it has been our good fortune to chronicle.

At A. P. Smith's, near Sacramento, the Visiting Committee found one set of men gathering mature vegetables for market, while another was cultivating those half grown, and still another planting seed of the same sort. Mr. Smith sends cucumbers to market on the first of January. Mr. John Wolfskill sold last year, from six apricot trees, two thousand pounds, at seventy-five cents per pound. One of his fig trees, six years old, measures two feet four inches in circumference, and is thirty feet high. One hundred miles from Stockton, the Messrs. Thompson, the pioneers of fruit culture in the State, have an orchard, nursery, and vineyard of 165 acres, handsomely fenced in and partly surrounded by wide double avenues four miles in length, lined on either side by fruit and ornamental trees, affording shelter and a fine park-like drive. Almost everything seems to thrive, from hops, pea-nuts, and tobacco, to the evergreen oak; but it is noticeable that irrigation* has to be resorted to, and we remark that it is believed the gold-diggers are preparing the lands for future use, in a most satisfactory manner by thorough draining.

A Mr. Haraszthy has 280 varieties of grapes, and expected to make 10,000 gallons of wine last season, and we note, but cannot particularize, greatly increased enthusiasm in regard to grape-culture and wine-making; there are now over three millions of grape vines in the State!

In the vicinity of Petaluma, are more than 130 large dairies; the sales last year of butter, cheese and poultry, exceeded 600,000 dollars. Honey is of the finest quality; price per pound, fifty cents; price of swarms in hive, one hundred dollars! A Mr. Fallon has four old pear-trees planted by the Spaniards sixty years ago, and grafted in 1854 with the Bartlett, producing 3,000 pounds the past season, which sold for six hundred dollars! Think of that Mr. Allen! one hundred and fifty dollars a tree. The figures are all large; Mr. George Lee has five and a-half acres containing 1,000 orange trees; he has also the pine apple, banana, citron, lemon, coffee, nine varieties of acacia, and many other tropical fruits and shrubs, all healthy and vigorous; and besides, his orchard has an amount of peach, plum, and cherry trees, and strawberries which perfectly bewilder us.

The Messrs. Sansevaine Brothers have 53,000 vines, and expected to make 80,000 gallons of wine last year; their eight large cellars filled with wine and brandy, present an astonishing picture of rapid wealth. But we must hold, and with a single extract to be digested by the northern man, leave this fascinating landscape: "The agriculturist and horticulturist from sterile New England, who lives one-third of the year in a snow-bank and the balance in hard toil to rid his fields of trees, stumps and stones, here has nothing to do but to turn the furrow, plant his seed, and in due time a sure and abundant crop follows. A climate, too, for evenness

* A mode of irrigation is thus described: "The water is raised into a tank and distributed through the garden by means of a red-wood flume under the earth. There are pieces of lead pipe extending from the flume about two inches above the earth at every tree. These pipes are capped and a small hole pierced in the top; on turning the faucet that lets the water into the flume, each pipe throws a jet about six feet in height, making a very pleasant sight and acting on the trees and plants like a rain-shower.

of temperature, health, and salubrity unsurpassed. The adaptability of these valleys and hill-sides (Sierra Nevada) for fruit-growing, is just being discovered. The monstrous pears, apples, peaches, and plums, raised the past season, surpass all others grown in the State. * * They undoubtedly will turn the present Mediterranean fleet of 643 vessels which annually leave for the Atlantic ports loaded with figs, lemons, limes, oranges, products of the vine, almonds, currants and raisins, to the amount of seven and a-quarter millions, to Californian shores."

THE NEW YORK STATE AGRICULTURAL SOCIETY has issued its list of premiums and regulations for the 18th Annual Exhibition to be held at Syracuse, October 5th to 8th, 1858. It is an extremely satisfactory list both for the exhibitor and the public. We desire to call attention particularly to the following new features, which appear to mark progress, and which will serve for a model for imitation. In addition to liberal gifts for all kinds of excellence, there is a premium of $250, (gold medal or money,) for an approved work of about 100 pages on the edible fishes of the State, which are susceptible of *domestication and cultivation*, including migratory kinds. This is a most important movement, and deserves the thanks of every citizen. $100 are also appropriated for an approved article on "The Quantity, Conditions, and Economy of the Nitrogen of Soils;" $250 is offered for a Steam Engine, or other Steam Apparatus that shall successfully introduce cultivation by steam; experiments with wheat, &c., &c., are to be rewarded according to a judicious plan; and in addition, there is a "Discretionary Department," for "improvements useful to the farmer, and having valuable properties, articles of ingenuity, usefulness and merit." Here is food for reflection, and much that may be taken up by other societies to advantage. Progress is indeed the word; what the country will become when it is "all fenced in," and the politicians are penned up at home, it would not be safe to prophecy.

WISCONSIN FRUIT GROWER'S ASSOCIATION.—The following is a list of officers of the Wisconsin Fruit Grower's Association for 1858:

President—A. G. Hanford, Waukesha. Vice-Presidents—Col. H. Crocker, Milwaukee; D. I. Powers, Madison; D. Mathews, Burlington. Secretary—Charles Gifford, Milwaukee. Treasurer—C. C. Olin, Waukesha. Executive Committee—H. J. Starin, Whitewater; J. C. Brayton, Aztalan; Thos. P. Turner, Waukesha.

ANSWERS TO CORRESPONDENTS.

CHRYSANTHEMUMS.—In order to attain increased size in these beautiful plants, they may be *disbudded* before the blossoms expand, leaving only three or four flowers on each; and in the case of the large sorts, remove all laterals. The effect is, more perfect blooms. When their beauty is over move them, and put them in "by the heels" in some suitable corner, out of the way, to be replanted next season; dig the borders for the winter, and they may be filled in the spring with mignonette, verbenas, geraniums, and other gay bedding-plants. In this way a fair display of bloom is kept up.

T. T. S.—The Jasminum nudiflorum is hardy, and is one of the best winter-blooming plants we have. If grown in pots it requires to be kept dwarf and bushy, which is done by cutting in freely, especially the strong, rambling shoots, in summer, to encourage the production of small twiggy ones, which bear the blossoms. None of these should be removed till the plant has gone out of flower. It is easily propagated by means of the end spring shoots in a common hot-bed, or by cutting the long shoots into pieces with three or four eyes, and planting them in a cool border in September or October. It flowers best in a pot, with soil rather sandy and poor.

ONIONS.—V. S.—The seed of onions may be tested by sprouting a small quantity in boiling water. If it is good it will sprout in fifteen or twenty minutes.

H. C. BEARDSLEY, OHIO.—The grafting of the grape vine as described in April, may be done when the sap is in motion. If the root shows a disposition to bleed, grafting cement must be

used, so late as the time of setting the fruit; it is successful, if the graft has been kept in a dormant state.

T. W. COOK, Bendersville, Pa.—The plant you sent is *Silené Pennsylvanica*. We shall be pleased to see the articles mentioned.

GOSSIP.

MR. FORTUNE sailed from England to China, about two months since, in the service and interest of the United States, to collect a supply of tea-plants for trial in this country, as well as to procure other Chinese productions as may be desirable to introduce. It is said that Mr. Fortune considers the soil and climate of our Eastern States peculiarly adapted to the growth of tea; but does he and our Government remember the rate of wages there? It is creditable to employ such men, and we hope for good results. A private letter from Mr. Fortune says: "It shall be my careful study to accomplish the important objects which you have entrusted to me, and you may rely on my not submitting to exorbitant charges, and on my acting in good faith to the Government of the United States.

"I have had so much experience in packing and shipping seeds and plants from China to India and England, that I venture to suggest to you that my operations should be conducted in the following manner: It will be imprudent to trust my collection in one or two vessels, as living plants are easily damaged during a long sea voyage. The more prudent course would be to ship, by as many vessels as possible, say six or eight. But as this will occupy some time, I think I had better come home by the overland route, and bring the seeds (not tea-seeds) with me, and endeavor to reach America as early as possible, in order to receive the plants on their arrival. If, on the contrary, I accompany the last shipment, *via* the Cape, the first would necessarily be home several weeks before I could be upon the spot to examine it and do what is needed. My object in offering this suggestion is to secure, if possible, the success of my mission, and I have no doubt you will agree with me in the propriety of such a course of procedure."

DR. LINDLEY gets several "dressings" for having said the Spirea callosa was the handsomest garden shrub in existence. The "Cottage Gardener" says: "Why give heed to these rhapsodies? Botanists admire the greatest weeds; and as to callosa, it is hardly worth a farthing to the great mass for whom we cater. Dr. Lindley is a very good authority on some things; but his knowledge of practical gardening is very limited and very peculiar." A little jealous perhaps, as we find some folks to be in America!

THE *Chicago Journal* says, "The lamented Downing was undoubtedly the greatest poet of his time—among those, we mean, who write their thoughts of beauty on the garden or the greensward. To counterfeit nature, to sprinkle the clumps of foliage as if they had been planted by the summer wind; to give to a little table of a plain the effect of hill and dale, and to a narrow homestead the apparent sweep of a spacious park; to teach the water to babble like a born brook along the artificial channel we have carved for it; to trace the paths in graceful curves, and hide everywhere the prints of the hand of art—these are among the achievements of landscape gardening, and some of the most exquisite stanzas of its living poetry. And this sort of authorship is one we have always envied; there seem such opportunities for the display of taste, for the *intimation* of beautiful thought. And then the books one must study to perfect himself in this poetic art are so many and so cheap, strewn everywhere upon the prairie, everywhere among the hills, all about in the woods. Such contrasts, such blending of tints, such admirable effects of light and shade, as fill the heart and soul with beauty. We do not know why one cannot make a lyric out of prairie wild-flowers; why he may not make a stanza of despised weeds; why he may not display his imagination and his fancy as well in a bouquet as in an epic;

why he cannot write 'thoughts that breathe' in 'words that burn' with all the glory of the sunset and the rainbow, quite as well upon a little patch of earth as upon a page of foolscap."

THE flavor of fruits is often entirely destroyed by their being packed in unsuitable substances. Bran spoils pears. It is a difficult matter to get a good packing material that will not communicate a flavor; moss, tow, flax-dressings, are unsuitable; the only substance which seems to be destitute of these bad properties is cotton, in the form of wadding; though the catkins of the beech-tree are well adapted, they are not so conveniently obtained.

ORCHARD HOUSES require much attention in the matter of watering. A saving of one-half the water, and the keeping the roots more regularly moist, is therefore important; the following method has been adopted, and might be employed for orange and lemon trees, &c., in large boxes: Take old wine bottles, cut off the bottoms about two inches high by passing round them a piece of thick worsted soaked in spirits of turpentine; set fire to this, holding the bottle in a horizontal position, and when this is burnt out pour on cold water; this will cut the bottle through quite clean, if well done. Make a hole down the inside of a pot with a blunt stick, insert the neck of a bottle to the shoulder, and press the soil closely around it. Fill the bottle with water as often as it becomes empty, by which plan the roots get a constant and regular supply. Should the soil get too wet, the water must be, of course, withheld for a time; and should it get too dry, pass a pointed stick through the bottle into the soil to give free passage to the water. Any who may try this plan will find their trees more at home in pots than they have hitherto done.

MIGNONETTE SAUCE.—Sauce is sold under this name in Paris, but it is only white pepper crushed into small granulations, and made into a sauce piquante. The French eat oysters with white wine and "Mignonette Sauce."

THE STATE GEOLOGIST of Missouri, suggests that the extensive "Barrens" of Kentucky and Tennessee may be rendered valuable for vineyards, and the numerous limestone caves become very useful as places for the storage of wine. He says it can be demonstrated that there are at least 20,000 acres in Missouri, Kentucky and Tennessee, in which the vine will succeed as well as in France or Germany.

THE BOSTON CULTIVATOR says: "Desirable as pears, cherries and plums are, we can hardly count on very large and constant supplies of such fruit. Our climate or soil is very unfavorable to such growth, or they are invested with so many insects and diseases, and require so much care, that few farmers can devote sufficient attention to their culture. The apple must be our main dependence."

POTS in which seeds are planted for bedding out, &c., should be plunged in something to keep the outsides of the pots from getting too dry, and from being hot and cold alternately; the seeds thus require less water, and the less they are obliged to have the more healthy the plants will be.

COCOA-NUT FIBRE given off in the manufacture of mats and matting, has been found very useful as a mulch for many plants, and especially for orange trees; new roots are rapidly formed in this material. As we have no such manufacture in America, the next best thing to promote a healthy growth is spent hops from a brewery. Orange-trees injured by winter keeping are almost brought to life by the free use of spent hops over the roots in their boxes.

MANY PERSONS complain that they cannot succeed well with the Daphne Indica. Cut the flowers freely, but be careful to leave some foliage below the cut; for if no leaves are left, that branch does not push again, and then the shape of the plant is spoiled. The stems of the plant are very short, but bouquet-makers know well how to form them on wire long enough for their purpose.

AN excellent way to celebrate May-day is that chosen by the young men of Dedham, Massachusetts, *to set out fifty shade trees on the common of that town.*

SHANKING OF GRAPES.—This is a disease which attacks the footstalks of the bunches, and appears to be occasioned by the temperature of the soil being much below that of the house in which the vines are growing; the supply of sap to the grapes is consequently much diminished, and the parts to which is given no support immediately begin to decay. The coldness of the soil induces torpidity of root action, and that perhaps at a period when the greatest demand is made upon the roots to sustain the excessive perspiration which is going on in the leaf, and to furnish fresh matter for elaboration. If the young fibres be examined after a season of cold drenching rains, and at inclement periods, they will be found to be discolored, and in some instances to be quite rotten. Consequently, I conceive that shanking is generally caused by the unnatural disagreement of temperament between roots and branches; the way obviously of preventing shanking is to secure a congenial temperature both to roots and foliage. Under great disparity of temperature in these respects, Frontignans are always apt to shrivel and shank.—*M. Austin.*

MISCELLANEA.

BULBS.—No bulb should be taken up for any purpose, or injured in its growth in any way *while the leaves are green;* for it should ever be remembered that it is the leaves that bring the root to maturity, and prepare it for flowering the following year. If these are injured or cut off, or if the plant is transplanted, unless with such a ball as not to touch any of its fibres, while in a growing state, the bulb will not recover so as to be able to flower, for at least one year, or perhaps more. Autumnal-flowering bulbs are not in a state of rest till the beginning of the following summer, as the Colchicums, autumnal-flowering Crocuses, Amaryllis lutea, and a few others. These, therefore, are to be taken up when their leaves begin to decay, early in summer, their offsets separated and planted in the nursery department, and the parent bulbs replaced in a month or six weeks, in order that they may have time to establish themselves and flower before winter.

LINDEN'S "Catalogue of New and Rare Exotics," cultivated by him at Brussels, gives the name and prices of a great number of novelties, chiefly from the mountains and valleys of tropical America. This year we have the following, now on sale for the first time, viz.: Aristolochia leuconeura, a fine foliaged twining plant, with deep green leaves marked with white veins; Begonia Rex, a magnificent Assam species, the whole stock of which is in the hands of Messrs. Rollisson; Begonia Lazuli, another Assam plant, so called because its leaves resemble in color the deep blue stone called Lapis Lazuli; Boehmeria? argentea, a shrub with leaves pale green above and marked with great blotches and pistules of silver gray, while the under side has conspicuous reddish brown ribs; Campylobotrys argyroneura, another fine variegated-leaved species; Cyanophyllum magnificum, a superb plant with leaves sixteen inches long, deep velvety green above, bluish purple below; the Marantas fasciata, borussica, and pulchella, all species with variegated leaves; Spigelia anea, a bronzed Lilliputian plant; and a new greenhouse Monochœtum, called sericeum.

SOLOMON'S GARDENS AT JERUSALEM.—These celebrated gardens extend along a valley which runs from El-Bownach to Bethlehem. It is the most charming spot in all Palestine. There are murmuring streams winding through verdant lawns; there are the choicest fruits and flowers, the hyacinth and the anemone, the fig tree and the pine. Towering high above the garden, and contrasting grandly with its soft aspect, are the dark precipitous rocks of the neighboring mountains, around whose summits vultures and eagles incessantly scream, and describe spiral circles in the air. The rare plants and flowers, which Solomon collected within these gardens, were protected from the north wind by the mountains. Every gust of the south wind was loaded with perfume. With the first breeze of spring the fig tree puts forth its fruits, and the vines begin to blossom. It was, in the words of Scripture, "a garden of

delights." The vegetations of the north and south were intermingled. One part of the garden was called Walnut-tree Walk (or, as the English Scripture translation has it, "The Garden of Nuts",) another is the "Beds of Spices." The present tenant is an Englishman, Mr. Goldsmith, of the house of Goldsmith & Son, who is under-draining the garden on the Yorkshire system. Since the eastern war, Mr. Goldsmith has obtained the custom of the Pacha of Jerusalem for vegetables. Last year he had seven crops of potatoes—thanks to his wonderful drainage.

Black Damascus Grape.—Attention has been called to the merits of this grape. I have been a grower of it on a large scale for the last twenty years, and it is one of the best black grapes grown, notwithstanding its reported character of being a shy setter and bearer. It is preferred to all other black grapes on account of its luscious flavor; in fact, a large berry of it furnishes quite a mouthful of juice of a most refreshing character. I have had berries of it one inch in diameter, and as perfect ones have only one seed, no grape with which I am acquainted yields so much juice. The seedless berries are preferred by some, being equal to many other perfect grapes in size. It will do well in the warmest end of any vinery, where the borders are well drained and managed. I find no difficulty in setting it well by drawing the hand when quite dry over the bunches, and gently rubbing the capsules off the flowers to free the polien, keeping the temperature rather high during the process. Another good plan is to thin the wings of the bunches before flowering, as this gives more room and strength for the blossoms to expand. No variety of grape has the flowers so prominent before expanding as the Black Damascus; indeed, the young wood, bunches, leaves, and tendrils, are grosser and more succulent than those of any other variety. Like some other large, juicy grapes, the berries of this one sometimes spot in warm weather just when changing color; therefore they require shading for a few days. It is only grown as a late grape; it is in perfection in October and November. I should not recommend it for very early forcing, but for a summer or autumn grape, it is, in my opinion, the noblest black grape grown, and should be in every collection. *William Tillery, in the Florist.*

Hints on Roses.—The following short epitome of rose-treatment contains all that is really necessary to be said on the subject:—Be not afraid of using the knife; one eye is enough to leave of any branch of the last year's growth, unless more are required to form the plant. Strong loam two parts and dung one part will grow the rose to perfection, although in most cases ordinary garden soil, with a good spadeful of dung to each plant, will do very well. To make handsome standard roses the head should be as wide across as the lower branches are high above the ground. In pruning, let all healthy branches that are growing in a proper direction be retained, but having attained the form of the head, spur them closely every year. Cut down all upright growing branches to the height you want side ones, leaving the top bud pointing in the direction they should grow. For the general feature of your garden, make use of continuous bloomers; that is, those of the nature of common China. Summer roses, that bloom a month and no more, are worthless, except for exhibition purposes. If you should desire, however, to grow summer roses, let them have a quarter in the garden to themselves. Never let their flowerless heads cast a gloom over the borders from July to November. Half prune in the autumn to lessen the weight that has to stand against the wind, and finish in February. In planting never forget to cut off, with a clear sharp cut, every portion of damaged root, for bruised ends and ragged wounds are generally fatal. Briars and other stocks for budding, should be planted in autumn, that they may be well-established when wanted. Bud when the bark of the stock will part easily from the wood, and be quick in performing the operation. Bud as close as possible to the main stock; it makes a better head, and is close to its support. Put cuttings in the open ground in October and November; two joints under ground, and one or two above. Get roses, as soon as you can get them to grow, into the form you want; from that time cut every year's growth back to a single eye. This applies to dwarfs, standards, bushes, and climbers. A tender rose on a stand-

ard will take less harm if lifted and laid in "by the heels," under shelter, than it will if it stand out; plant again in its proper place in the spring. Tender roses may, nevertheless, if you approve of the appearance, be tied in close, and covered with moss, straw, or matting, or even with an oil paper-cap. Cut off all fading flowers. It helps the remainder and prolongs the bloom, besides looking neat and clean. Strike all cuttings at the fall of the leaf in preference to any other time, and an ordinary border will do for them. China roses that grow and bloom all the year under glass, may be grafted or budded at any time, provided the stock be also China, and growing also.

THE DEATH OF THE WATER LILY.—I am always in hope of seeing one of these beautiful Lilies in the act of dying; it is so lovely a flower-death—there is no pain in it. When the seed ripens in the Lily-cup, and her bloom is over, she does not cast her seeds to the winds, and fade, wither, and decay, like earth-flowers; but she slowly turns upon her pale face, and rests it upon the water, while the seeds sink in a golden shower back to the parent stem, far beneath the water. Thus they never leave their parent loch, but flower there for ever.—E. MACKENZIE.

Notes for the Month.

VINEYARD CALENDAR FOR JUNE.

BY R. BUCHANAN, CINCINNATI.

THE principal business of the vine-dresser, for this month, is what is termed "Summer Pruning," viz., rubbing off suckers from the main stock, cutting out shoots from the axils of the leaves, and shortening in branches that are growing too rampant; but above all, carefully tying up the vines to the stakes to prevent their being broken off by winds, and in such manner as to leave sufficient light and air to the branches of fruit, which will now be growing rapidly. Should weeds grow too fast, they may be kept down by the hoe, or cultivator, or by light surface-ploughing. It is thought best not to open the ground much in the vineyard this month, for fear of mildew or rot, from excessive moisture. The sulphur experiment, as a remedy for these diseases, may be applied this month.

In the calendar for May, the word "barriers" is printed for *berries*.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—There is always more or less green vegetable refuse in gardens during summer, such as potato tops, pea haulm, and similar matter, which is either allowed to remain on the ground and dry up in the sun, or deposited in a heap for the purpose of forming manure. A better disposition of such products is to dig them at once into the soil; there are always some spare corners, or uncropped spots, which may be enriched by becoming a place of deposit for rubbish of this kind Even the short grass from lawns may be covered at once, if no more useful disposition can be made of it: such as mulching between the rows of vegetables, or over the roots of recently-planted trees. There is much loss of enriching matters by allowing these incidental accumulations to lie on the surface; and even as a matter of neatness and regularity, they should be at once disposed of, and rendered useful for future crops.

FRUIT TREES.—Summer pruning, or pinching the points of young shoots, seems not to be so thoroughly understood as its importance demands. It is not too much to assert that the highest degree of cultivation cannot be reached, until its importance and necessity is fully comprehended and recognized. The whole aim of pruning is to modify and direct growth so as render it subservient to the wishes of the cultivator. At no time can this be more readily attained than during the season of growth. It is much easier to prevent a shoot from growing now where it is not wanted, than to cut it off after growth is completed, just as it is easier to rub off a bud than cut off a branch. We allude to established trees. It would be well for all cultivators to study this matter practically. Especially is it desirable that a practice should not be condemned, in the absence of knowledge as to the proper applications of the principles upon which it is founded.

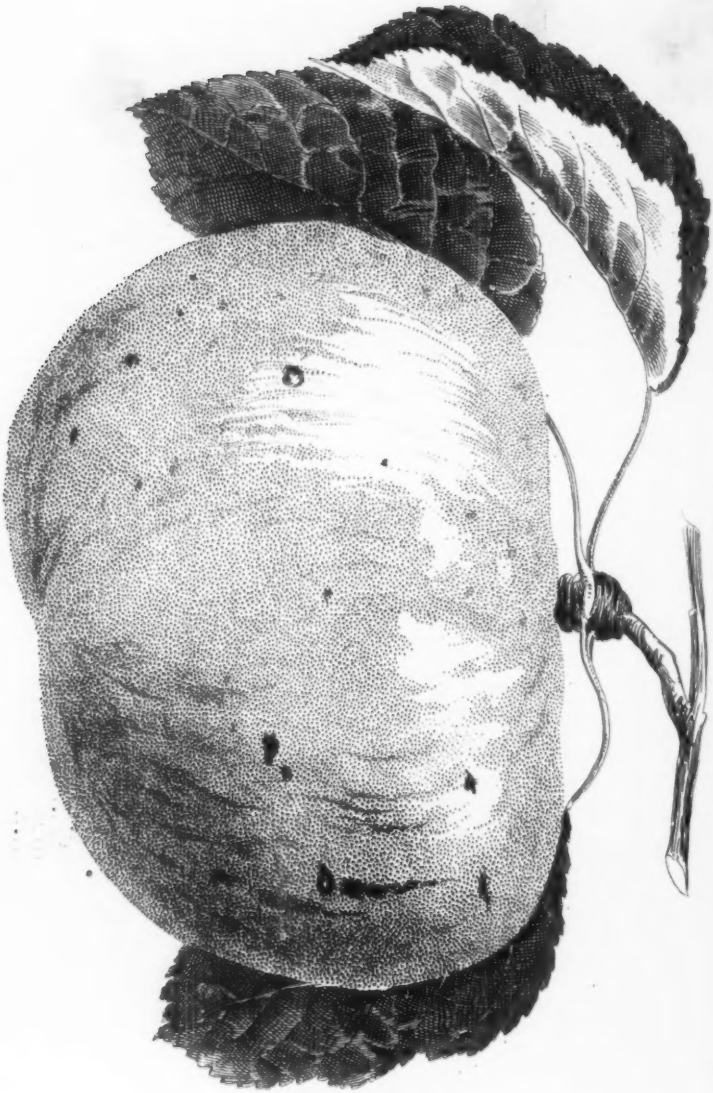
ROSES.—To form well-furnished and finished beds of roses, procure such kinds as Souvenir de Anseleme, Sombrieule, Amie Vibert, Glorie de Rosamene and Fellenberg, and plant them so that the stems may be readily pegged down to the surface of the ground. Roses, as procured from greenhouses, are generally tall, slender, and destitute of low side branches, and when planted out, require an amount of support from stakes that sadly mars the beauty of the plants, and do not harmonize well with the general neatness of the flower-garden. To remedy this defect, let the plants be laid down horizontally, and the stems separated and pegged close down; the whole plant will set up a new crop of shoots and flowers, and preserve such a uniformity of growth as will render it a rival in this respect to the verbena. When treated in this way, flowers are produced in masses; although to procure the greatest uniformity, kinds of similar habit should be selected. We cannot imagine any feature that would be more interesting than a small geometrical arrangement of beds, each planted with a distinct variety of rose, and managed as above. Roses laid so near the ground will be much less likely to be destroyed by severe winters, and if necessary, they can be covered with great facility.

GREENHOUSE.—The proper application of water is of great moment in the cultivation of pot-plants. The *Tell-Tale* pot noticed in the last number will be a useful indicator, although very porous or absorbent pots are not by any means desirable so far as cultivation is concerned.

It is a good general rule never to apply water to a plant until it is dry. The difficulty, however, is in knowing when a plant really requires water; and simple as it may seem, this knowledge can only be acquired by practical and studied observation; and without it the highest degree of cultivation cannot be attained. There are a few general rules which it may be useful to recapitulate. Watering should always be done in the early portion of the day. There are various important reasons for this practice that we cannot now enumerate or fully explain. Plants in small pots, with a system of thick matted roots, will require much water; in this case it is hardly possible to hurt by too much water, if the plant is in a growing state. Let this plant be removed into a larger pot, and the fresh soil will act as a reservoir, and will obviate the necessity for frequency of the waterings. As growth increases and the roots extend into the soil, they will suck up more moisture, and consequently will require more frequent applications. Plants with narrow or small foliage require less water than those with large spreading leaves. During the period of growth, there should be a regular and constant supply, as they are very sensible of any check at this period. When the weather is damp and dull, the leaves perspire very slowly; there is little lost by evaporation from their surfaces, consequently there is less absorption by the roots. The application of water when properly understood, is the most powerful controlling influence which we possess in the artificial management of plants.

LAYING OUT GROUNDS.—To strike out the seemingly rude and simple outlines of an arrangement for a villa residence, with its various accessories, requires a reflective mind, alike conversant with the forms of nature and principles of art. It is a subject, the details of which admit the exercise of the purest taste, and cannot be confined to the formality of mechanical rules. The only rules that can be adhered to, are those of elementary principles. The leading features to be constantly kept in view, are utility, appropriateness, and expression of purpose. The vegetable garden, stable, &c., should be of ready access from the house; walks should lead as directly and easily from point to point as circumstances will allow. Gentle curves in walks are always pleasing where appropriate; but if a straight line is seemingly more convenient, do not attempt a curve. Many minor details have to be secured, and their suitable introduction, forms in the aggregate an important consideration in the ultimate and matured plan, although individually they may appear neither interesting nor of much consequence. I have remarked that no mechanical rules can guide matters of taste. Numerous circumstances in each individual case will confirm this assertion. No person of cultivated taste can, or will, adhere to rigid rules. All our essays on rural taste and landscape gardening seem to be deficient in general practical details, while at the same time they do not enter sufficiently into elementary principles.

In a recent number, I questioned "Whether more real progress would not follow from the promulgation of principles only, than in the enunciation of practical rules." In matters of taste this admits of no question, and those who would wish to qualify themselves as critics or advisers should carefully study such works as "Knight on Taste," "Price on the Picturesque," "Allison's Essays on Taste," "Wilson Flagg's Studies on the Field and Forest," "Addison's Pleasures of the Imagination," "Ruskin's" Works, especially his recent letters on the "Elements of Drawing," "Burke's Essays on the Sublime and Beautiful," the latter more for its reasonings than its deductions, and "Kame's Elements of Criticism."



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